TINA ABREFA-GYAN: Email: nanatagg@yahoo.com

EDUCATION

University of Maryland, Baltimore, Maryland.

Doctoral Candidate, Doctoral Program Committee, *Student Representative (2008-2009),* Graduate Students Association, *Social Work Program Representative (2008-Present),* University Student Government Association, *Senator (2009-2010), Reviewed MSW Admission Application (Spring 2009),* Nurses for Global Health Association, *Ambassador and Representative (2009-2010).*

Doctoral Project: HIV/AIDS, Socio-demographic Factors, Social Supports, and Quality of Life

Washington University in St. Louis, Missouri.

Master of Social Work

Graduation: Aug. 05

Emphasis: International Social and Economic Development of Women and Children, in rural/under-served communities.

Scholarship recipient: Dr. Sun Yat Sen (for exceptional leadership qualities and superior academic performance).

University of Ghana, Legon, Accra, Ghana. First Class Honors, Bachelor of Arts (Hons) in Social Work with Psychology.

Graduation: May 02

Dissertation: Coping Mechanisms Adopted by Female Migrants (Kayayei) of Northern Origin in Accra; a Case Study of Old Fadama, Accra-Ghana

- Served as a volunteer for several community agencies, Aug. 98-May 02.
- Educational/literacy campaign (Global Scholar) in four Districts in Ghana, Aug. 98-May 02.
- Participated in the HIV/AIDS Anonymous program aimed at campaigning for HIV prevention and offered psychiatric counseling to AIDS patients, Sept 01-June 02

FULL-TIME/PAID WORK EXPERIENCE

University of Maryland, Baltimore, *Graduate Research Assistant*, June 08-Present.

- Part of a research team investigating “Caregiver Attitudes towards Adoption” and the mental health problems experienced by children in the child welfare system.
- Compiling a comprehensive bibliography of community practice work.

  Johns Hopkins University, *Qualitative Data Analysis Consultant, Baltimore, MD,* July 2010-Present.
- *Analyzing qualitative responses from women who use alcohol to determine why they drink, their mental health status, impact of alcohol on their mental health and poly-substance use, and the relationship between alcohol abuse and HIV infection. Analyzed data from these transcripts will be used to develop an intervention that will help alcohol addicted women maintain sobriety.*
- *Analyzing focused group data from experienced pediatric practitioners to be used in developing an educational curriculum for pediatric residents.*

Salvation Army Homeless Shelter, *Housing Monitor/Case Manager***,** Atlanta, GA Sept. 06-March 07, managed 18 clients’ cases

1. Conducted intake assessment for new residents and counseled clients accordingly
2. Provided resident services to clients via the phone and at the appointment desk
3. Provided case management services to clients and referred them to needed resources.

Hopewell Center, Community Psychiatric Rehabilitation Department *Community Support Worker (MSW, CSW*), St. Louis, MO, Oct.05-Sept. 06, *currently managing 22 clients' cases. Certificate in CPR, First Aid Training, and Crisis Response/Intervention.*

1. Assessed client's mental health status, problems, and needs, and trained them in daily living skills such as housekeeping, personal grooming, etc.
2. Advocated for clients within the community to assist them to maintain their positive community adjustment.

INTERNSHIPS AND COMMUNITY SERVICE

Jacques Initiative HIV Support and Counseling Group, Institute of Human Virology, University of Maryland, Baltimore, *Volunteer*, Spring 2010.

Americans for Informed Democracy (AID), *Intern/Mentor,* June-Sept. 08 Baltimore, MD

1. Developed and posted fact sheets on human trafficking, child and maternal health, essential medicines, water and sanitation, HIV/AIDS and labor rights on AID's website.

United Nations Headquarters, Department of Economic and Social Affairs, Division for the Advancement of Women (DESA-DAW). *Graduate Intern,* June 05-Aug. 05

1. Part of a team that organized the Inter-Agency Network on Gender Equality (IANWGE) video conference on gender mainstreaming in development projects at the country level for the first time since the formation of IANWGE, July 2005.
2. Assisted with substantive and logistical preparations of a technical cooperation project proposal and workshop preliminarily entitled "Strengthening National Gender Statistics in Africa for Improved Monitoring of the Beijing Platform for Action, CEDAW and the Millennium Development Goals.

Neighborhood Council, St. Louis, Missouri (USA), June 04-Jan. 05, *Graduate Intern.*

1. Part of a team that developed an *after-school youth training program* and the *handyman program* for clients and developed a website for the organization.
2. Wrote grant proposal to fund agency's projects.
3. Researched on sustainable development for the agency's clients.
4. Promoted healthy life choices through group discussion and campaigning against HIV/AIDS.

C.A.L.L.-4-Life Inc., St. Louis, Missouri (USA), Jan.-Feb 05, Graduate Intern

1. Responsible for tracking House and Senate bills that affect developmentally disabled clients and organized them for lobbying at the MO state capitol.
2. Researched on policies affecting the homeless and mentally disabled in St. Louis.

The Ark Foundation, Ghana (human right, gender and advocacy-based agency), August 2003-January 2004, *intern, Social Worker, and Welfare officer.*

1. Assisted and empowered survivors of abuse through counseling.
2. Facilitated campaigns against domestic violence through workshops, seminars and community outreach programs in the eastern Region, Ghana.
3. Trained women leaders from selected development oriented organizations in gender issues.

TEACHING EXPERIENCE:

Bachelor's in Social Work (BSW)

Spring 2013 Adjunct Faculty, University of Maryland, Baltimore County School of Social Work

1. Taught social work research (SOWK 470)
2. Graded research proposals and other papers
3. Provided student advising

Master's in Social Work (MSW)

Fall 2012 Teaching Fellow, University of Maryland, Baltimore School of Social Work

1. Taught Social Work Research (SOWK 670)
2. Graded research proposals, midterm, and final exams
3. Provided student advising

Spring 2012 Teaching Fellow, University of Maryland School of Social Work

1. Taught Social Work Research (SOWK 670)
2. Graded research proposals, midterm, and final exams
3. Provided student advising

Fall 2011 Teaching Fellow, University of Maryland School of Social Work

1. Taught Social Work Research (SOWK 670)
2. Graded research proposals, midterm, and final exams
3. Provided student advising

Spring 2011 Teaching Fellow, University of Maryland School of Social Work

1. Taught Social Work Research (SOWK 670)
2. Graded research proposals, midterm, and final exams
3. Provided student advising

Fall 2010 Teaching Fellow, University of Maryland School of Social Work

1. Social Welfare Policy (SOWK 600), Teaching Assistant
2. Graded midterm and final exams
3. Assisted with setting and developing exam questions and grading rubric

Summer 2010 Teaching Fellow, University of Maryland School of Social Work

1. Community Organization (SOWK 704), Teaching Assistant
2. Moderated a mock City Council meeting for community protesters and City Council board members.
3. Participated in door-knocking event in three neighborhoods in Baltimore city to organize community residents to work on better environmental conditions
4. Taught some topics independent of the primary instructors
5. Graded project proposal assignments
6. Helped with developing grading rubrics for various class assignments
7. Responded to students' questions and provided student advising services

SCHOLARLY WRITINGS AND PROFESSIONAL PRESENTATIONS

Published Manuscript

Abrefa-Gyan, T., Barr, J., & Soifer, S. (2011). Virtual Organizational Development and the History of the Internet: A case study of parallel evolution. *International Journal of Humanities and Social Science, 2(3),* 295-301. Retrieved from http://connection.ebscohost.com/c/articles/73030376/virtual-organizational-development-history-internet-case-study-parallel-evolution

Rice, K., Hwang, J., **Abrefa-Gyan, T.,** & Powell, K. H. (2010) Evidence-Based Practice questionnaire: A Confirmatory Factor Analysis in a social work sample. *Advances in Social Work, 11(2),* 158-173. Retrieved from http://journals.iupui.edu/index.php/advancesinsocialwork/article/view/897/1792

Manuscripts in Progress

Tuten, M., **Abrefa-Gyan, T.,** Hwang, J., Morris-Compton, D., & Powell, K. H. (in preparation, 90% complete). Predictors of the use of Evidence-Based Interventions among NASW members.

Abrefa-Gyan, T. (in preparation, 80% complete). Evidence-Based Practice: Attitudes and knowledge of social workers across geographic regions.

Abrefa-Gyan, T. (in preparation, 80% complete). Socio-demographic Characteristics, Social Support, and the Mental Health among Individuals Living with HIV: A Review of the Literature.

Abrefa-Gyan, T. & Gioia, D. (in preparation, 60% complete). Factors influencing the adoption of Evidence-Based Practices.

Dushalieva, S., Svoboda, D. V., **Abrefa-Gyan, T.** & Gioia, D. (in preparation, 70% complete). Assessing the role of attitudes, knowledge, and organizational climate in the use of Evidence-Based Practice among NASW members.

PROFESSIONAL SCHOLARLY PRESENTATIONS

Khaliah A. Johnson, MD, Melissa Sacco MD, **Tina Abrefa-Gyan, MSW, ABD,** Nicole Shilkofsky, MD, Lewis Romer, MD, Janet Serwint, MD. Negotiating unsettling situations in pediatric encounters: A focus group study. Poster Presentation at the Pediatric Academic Societies (PAS) Annual Meeting, The Hynes Convention Center Sheraton Boston Hotel, Boston, Massachusetts, USA.

Powell, K. H., **Abrefa-Gyan, T.,** Williams, C**.,** Rice, K., & Howell, P. B. (2010). Perceptions and Realities in Evidence-Based Interventions: Implications for Social Work Education. Accepted for Poster Presentation at Council on Social Work Education (CSWE), 56th Annual Meeting, Portland, Oregon: October 14, 2010–October 17, 2010.

Abrefa-Gyan-Tina (2010). Evidence-Based Practice: Attitudes and knowledge of social workers across geographic regions. Poster presentation at fourth Annual Conference for the Dissemination of Student Research (Johns Hopkins University, Baltimore) – Friday, May 7, 2010.

Abrefa-Gyan, T. (2010). Evidence-Based Practice: Attitudes and knowledge of social workers across geographic regions. Oral presentation at 32 nd Annual Graduate Research Conference (University of Maryland, Baltimore) – Thursday, April 8, 2010.

GRANT FUNDING

University of Maryland, Baltimore, School of Social Work PhD Program Dissertation Award ($976.10), June 2012

1. Competitive award to fund expenses related to conducting dissertation research
2. Dissertation topic: Socio-demographic Factors, Social Supports, and Quality of Life among People Living with HIV/AIDS in Ghana.
3. West African Research Association’s Fellowships and Grants ($3,000), June 2011
4. Competitive award to fund pre-dissertation research expenses

CONFERENCES AND SEMINARS ATTENDED

1. *Nursing Grand Rounds-"HIV Guidelines & Treatment Updates: A Journey towards Wellness." University of Maryland Medical Center's,* December 1, 2010.
2. *Global Health Goals and Metrics: The Global Health Council Conference,* June 14-18, 2010 at Omni Shoreham Hotel in Washington, DC.
3. *Addictions, Infectious Disease, and Public Health: The Third Annual Conference for the Dissemination of Student Research,* April 24, 2009 at Johns Hopkins University.
4. *An Evening with Nobel Peace Prize Winner Muhammad Yunus, at the Meyerhoff Symphony Hall on Monday, April 20, 2009, University* of Baltimore.
5. *2nd Annual National Institute of Health (NIH) Conference on the Science of Dissemination and Implementation: Building Research Capacity to Bridge the Gap from Science to Service,* January 28-29, 2009. NIH Campus, Bethesda, MD.
6. *At a Crossroads: Diplomacy and Iran Scholars Program Washington, DC Summit*, July 17-19, 08 (appointed to attend).
7. *CARE, USA conference* and The *Importance of Education among Saudi Arabian Women,* Washington, D.C, June17-20, 08, participant (attended capitol hill meetings with Georgia State House Representatives and Senators on global food crisis, climate change in the global south and the International Violence Against Women Act (IVAWA),
8. "*Reducing the costs on remittances for Latin American population in the US,*" Congress Meeks-Queens, New York. July 12, 05
9. Screening of the *"En Route to Baghdad,*" opening remarks by **United Nations Secretary-General Kofi Annan,** June 17, 05

SOFTWARE

1. Statistical Package for Social Sciences (SPSS)
2. QSR NVivo 10 and Atlas Ti (qualitative softwares)
3. Ref Works Bibliography Builder
4. Microsoft Office – Word, and PowerPoint
5. Blackboard
6. Qualtrics (survey instrument)

PROFESSIONAL AFFILIATIONS

1. Council on Social Work Education (CSWE), May 2010-Present
2. HIV/AIDS Anonymous (HAANS), October 2001-January 2004

Abstract

Title of Dissertation: Socio-demographic Factors, Social Supports, and Quality of Life among People Living with HIV/AIDS in Ghana.

Tina Abrefa-Gyan, Doctor of Philosophy, 2014

Dissertation Directed by: (Drs. Llewellyn Cornelius, Professor, and Joshua N. Okundaye, Associate Professor, School of Social Work)

This study aimed to determine whether quality of life and social support differ by socio-demographic factors and whether socio-demographic characteristics and social support are associated with quality of life in individuals diagnosed with HIV/AIDS in Ghana. This study utilized concepts from the intersection domains of social capital, social network, and social support theories. Using a cross sectional design, survey data were collected from 300 participants selected because they attend support groups meetings, are a convenient sample, and also have experience in participating in research studies. The Medical Outcome Studies (MOS) HIV Health Survey and the MOS Social Support Survey (MOS-SSS) instruments were used to assess quality of life and social support respectively. A demographic questionnaire developed by this researcher was also used to gather demographic information about the respondents. The study used independent sample *t*-tests to determine possible differences in quality of life and social supports among individuals across socio-demographic factors, Multiple regression was used to determine if socio-demographic factors moderated the relationship between social support and quality of life, and to also identify factors associated with quality of life. Social support was higher for men, married individuals, and those with more than 12 years of education while the reports on quality of life was higher for men. There was a positive association between overall social support and overall quality of life ($r = .51$). Sex contributed most to quality of life. Males reported poorer quality of life at low social support but better quality of life at higher social support. Females, on the other hand reported lower quality of life compared to the males but their reports of quality of life were approximately the same at both low and high social support. Similarly, those who have children reported slightly better quality of life than those who do not have children but these two groups reported about the same quality of life at high social support. Overall, the findings from this study indicate that the combination of socio-demographic factors and social support related to quality of life. Implications of the findings for practice, research, and policy in Ghana were discussed.

Socio-demographic Factors, Social Supports, and Quality of Life among People Living with HIV/AIDS in Ghana

By
Tina Abrefa-Gyan

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, Baltimore, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2014

Acknowledgements

It is with great excitement that I write this portion of my dissertation. First, I thank the Almighty God for helping me to come this far. It is by God's Grace, I have come to the end of the dissertation. Many thanks also go to the West African Research Association's Fellowships and Grants and the University of Maryland, Baltimore (UMB) School of Social Work for funding this project. Next, I would like to thank a number of people who contributed to the successful completion of this dissertation.

First, I would like to thank my dissertation chair, Dr. Llewellyn Cornelius, for his support and guidance in making this project a success. Your feedback comments and questions have caused me to think strategically about my research agenda and teaching philosophy. I, also, would like to thank my committee members, Drs. Joshua Okundaye, Jody Olsen, Jeffery Johnson, and Carla Storr for their inputs and perspectives that have helped shape the direction and quality of this dissertation. I am very appreciative of the time and effort you dedicated to the review of my dissertation.

To my family, mentors, and friends, I would like to extend my sincere gratitude for your support, patience, and kindness, as I pursued my dream. The process seemed isolating some times, and without your prayers, encouragement, and assistance, this journey would have been less gratifying.

Finally, I would like to thank the Network of Persons Living with HIV/AIDS in Ghana (NAP+ Ghana), and particularly the agency president, Mr. Clement Azique, for granting me the permission to collect data from the agency for my dissertation.

Table of Contents

Chapter Page

List of Tables

List of Figures

CHAPTER 1

Background, Significance, and Literature Review

In this chapter, the setting, significance of the study, and the prior literature on the topic of enquiry will be discussed.

Overview of the Political Climate Affecting Health and Policy in Ghana

The Republic of Ghana is a West African country bordered by Côte d'Ivoire to the west, Burkina Faso to the north, Togo to the east, and the Gulf of Guinea and Atlantic Ocean to the south (Central Intelligence Agency [CIA], 2013). Being the first in Africa to gain independence in 1957 from British rule, Ghana enjoys a constitutional democratic system of political rule, and it is currently a stable economic and political economy (Ansong, 2009; CIA, 2012). Ghana has a unitary system of governance whereby the central government possesses more authority and decision-making power than the local governing bodies. Given that Ghana is a low-resource country and is committed to eradicating poverty and improving the health of its people, there are policies in place for the poor and disadvantaged population. One of the main goals of these poverty policies is to improve the health of the poor.

As part of its effort to eradicate poverty among its entire population the government of Ghana has mobilized each of the 23 government departments (ministries[1]) to pursue the poverty reduction goal of the government. For example,

---

[1] Ministry of Education and Sports; Ministry of Energy; Ministry of Food and Agriculture; Ministry of Communication and Technology; Ministry of Defense; Ministry of Environment and Science; Ministry of Finance and Economic Planning; Ministry of Foreign Affairs; Ministry of Health; Ministry of Information; Ministry of Interior; Ministry of Justice and Attorney General's Department; Ministry of Lands, Forestry, and Mines Ministry of Local Government and Rural Development; Ministry of Manpower, Youth and Employment; Ministry of Parliamentary Affairs; Ministry of Private Sector Development and President's Special Initiative (PSI), Ministry of Regional Cooperation and NEPAD

the Ministry of Manpower, Youth, and Employment (MMYE) has a vision of eradicating poverty and promoting employment and social integration through a sustainable means while ensuring overall national socio-economic growth and development (MMYE, 2007). Other ministries such as the Department of Education seek to reduce poverty by providing particularly disadvantaged, vulnerable, Ghanaians the quality education that fosters progressive socio-economic development and growth in the country (GhanaWeb, 2010). Similarly, the Ministry of Energy ensures the provision of reliable source of energy services to the private and public sectors in an environmentally sustainable manner to ensure the achievement of its health promotion and poverty reduction goals (GhanaWeb, 2010).

Prevalence of Poverty in Ghana

Ghana is rich in natural resources and has roughly twice the per capita output of some poorer African countries, but the country is still dependent on aid from multinational institutions and some developed and middle-income countries for financial and technical support (CIA, 2010). According to the CIA (2013), Ghana consulted with the International Monetary Fund (IMF) and entered into a three-year Poverty Reduction and Growth program with this organization to improve macroeconomic stability, private sector competitiveness, human resource development, and good governance and civic responsibility. “Sound macro-economic management along with higher prices for oil, gold and, cocoa helped sustain high GDP growth in 2008-2012, despite the general slowdown in the global economy during that same time period” (CIA, 2013). Currently, the nation’s major sources of

---

(MRCN); Ministry of Road Transport; Ministry of Tourism and Modernization of the Capital City; Ministry Of Trade and Industry; Ministry of Women and Children's Affairs; and Ministry of Works and Housing.

foreign exchange include gold and cocoa production as well as individual remittances (CIA, 2013). According to a United Nations (UN) definition, an individual or a family living on $1.25 US or less per day lives in absolute poverty (United Nations Department of Economic and Social [DESA], 2010; World Vision Ghana, 2012). An estimated 40% of Ghana's population of about 25 million, lived in poverty in 2000 (Ghana Living Standards Survey [GLSS 2000], as cited in Ghana Districts, 2010). These citizens are able to meet their basic nutritional needs, but cannot afford certain essential needs such as health, shelter, clothing, and education (Ghana Districts, 2010). As of 2007, an estimated 28.5% of the population (about 6,936 853) lived below the poverty line (Briefing Paper, 2009; CIA, 2013). According to the Briefing Paper (2009), 18% of the citizens of Ghana live in extreme poverty. This population who live in extreme poverty constitute an estimated 880, 000 households who are unable to meet the cost of basic health care and basic food needs or nutritional requirements. In the capital city of Accra, where this study was conducted, poverty levels are only two percent, while the rural areas experience 70 percent level of poverty (World Vision Ghana, 2012). However, anecdotal evidence suggests that majority of the People Living with HIV/AIDS (PLWA) live in poverty.

Poverty Policies in Ghana

In Ghana, there are poverty policies guiding the Social Protection Programs which influence policy in a way that enables persons living in poverty, extreme poverty, and with vulnerabilities to become effective players in the socio-economic development of the global economy (Ghana Districts, 2010). Owing to the goal of eradicating poverty globally, "the Government of Ghana's vision of a National Social Protection Strategy (NSPS) is the creation of a society in which the citizenry are duly empowered with the capacity to realize their rights and responsibilities to manage social, economic, political, and cultural shocks. Social Protection interventions will afford persons in extreme poverty the capacity to contribute to economic growth within the framework of the Ghana Growth and Poverty Reduction Strategy II (GPRS II. 2006-2009) (Ghana Districts, 2010). Another goal of the Social Protection Program is to assist beneficiaries to overcome social risks like unemployment, sickness, disability, and old age.

History of Social Protection

There are two phases in the history of the development of the Social Protection Programs; the informal and the formal stages. The informal stage refers to the traditional means that Ghanaians use to safeguard their income, while the formal phase emerged after the government developed formal interventions to serve as safety nets for citizens in times of health and socio-economic vulnerabilities.

Informal Social Protection

In the past, Ghanaian residents derived informal support systems from relatives, remittances to credit organizations (*susu*), and faith-based networks (e.g., membership in churches, religious fellowships, etc.) (Briefing Paper, 2009). It is possible that this informal system, though effective, was not reliable. This is because these support systems were developed based on availability of resources with sympathetic kinsmen, trustworthiness of the susu collectors, and the resourcefulness of the faith-based networks. Perhaps, people who came from poorer family backgrounds, or did not have the means to remit a proportion of their employment income to credit organizations, or were not members of faith-based organizations did not have informal social protection in times of vulnerability and extreme poverty. Even those who remitted incomes to credit organizations and anticipated receiving support during a period of social risk like a sudden disability may not have benefited from these informal sources of social protection given that these forms of trust-based support systems were unreliable. Thus, regarding the susu system, the susu collector could embezzle funds or disappear with members' contributions without necessarily facing punitive actions. Moreover, these informal mechanisms have diminished in form and scope due to urbanization and demographic changes (Briefing Paper, 2009). With increasing trends in urbanization and demographic changes caused by migration of people from different parts of the country to urban centers to explore economic opportunities, the fabric of trust among people gradually disappeared as people found it difficult to trust "strangers." Therefore, there was the need for the government to legislate policies that ensured more organized, formal sources of social protection in times of health vulnerabilities and financial crises.

Formal Social Protection

After World War II, the government of Ghana introduced the pension scheme to help public servants and formal private workers safeguard themselves against vulnerabilities and risks (Briefing Paper, 2009). However, only an estimated 10% are covered under this social security program (Briefing Paper, 2009). Given that this program is not universal, the remainder of the population in the informal labor force may not have any reliable source of social protection mechanisms to support them in times of need.

In addition to the pension scheme, a broader, comprehensive social protection mechanism has been developed to address poverty at multiple levels (Briefing Paper, 2009). The recently developed social protection programs are universal interventions developed and administered in fulfillment of the Millennium Development Goals (MDGs) regarding health, education, child poverty, and gender equality (MMYE, 2007). These policies include the National Health Insurance Scheme (NHIS) in 2003, Education Capitation Grants to schools from 2005-2006, and the School Feeding Program in 2004, (Briefing Paper, 2009). Other Social protection programs include the National Pensions Act 766 of 2008, the Pilot Cash Transfer Program, Public Works Program, and the Livelihood Empowerment Against Poverty (LEAP). Yet, implementing these policies in full force is still underway (Mensah, Oppong, & Schmidt, 2009). The Social Protection Programs tackle extreme poverty by redistributing income, lessening risk, and providing resources to extremely poor households who are susceptible to the tendency of resorting to adverse coping (e.g., removing children from school in times of financial crises, extreme hunger experienced by pregnant/lactating women living with HIV/AIDS, etc.).

The National Health Insurance Scheme (NHIS), 2003

During the early post-independence era, Ghana provided free universal medical services to her citizens, but the early 1980s saw economic hardships due to falling cocoa exports, failed economic policies and high inflation rates, declining health infrastructure, and the brain-drain of health care professionals, (migration of Ghanaian-trained health care workers to other countries because of a better promise of economic security), making it impossible for the government to continue implementing this health policy (Mensah, 2006).

Following the mandates of the IMF and World Bank-sponsored Structural Adjustment Programs, the government implemented a cost recovery scheme (or fee for service cash and-carry system) (Mensah Oppong-Koranteng, & Frempah-Yeboah, 2006). According to Oppong (2001) the cost of health care services became unaffordable for the poor and this resulted in a worsening health indicators. Therefore, the poor resorted to either self-medication or delaying medical treatment until the health condition deteriorated to near-death experiences, or to alternative medical treatments from traditional unregulated/herbal healers (with often disastrous consequences and high mortality rates), spiritualists, and mobile drug vendors (Oppong, 2001). To mitigate the harsh consequences of the cash-and-carry system and to replace it with a better policy, to increase health care access to the poor, and to improve quality of life, the government launched a National Health Insurance Scheme (NHIS) in 2003. Diseases covered under this scheme do not include HIV/AIDS (Mensah et al., 2009), although the NHIS insures 95% of the common health problems (which include malaria, diarrhea, upper respiratory tract infections, skin diseases, hypertension, asthma, and diabetes) (Ghana Ministry of Health, 2004a and 2004b). Given that the NHIS does not cover the health care costs for HIV/AIDS treatment, the persons living with HIV/AIDS strive through their own individual endeavors to receive enough social support (such as medication, material goods, information about the disease, etc.) to help improve their QoL. However, international funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), United States Agency for International Development (USAID), the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) and many developed countries either partially or fully sponsor HIV clinics in selected countries to enable these clinics to provide HIV/AIDS medication and some other supportive services to those living with AIDS (NAP+, Ghana, 2010).

How do these Socio-political Issues Relate to HIV/AIDS at the Global Levels and in Ghana?

In 2003, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) launched the "3 by 5" strategy in December 2003, with the goal of helping low-and middle-income countries provide HIV/AIDS treatment to 3 million people by the end of 2005 (A Report on "3 by 5," 2006). The report indicated that although this goal was not achieved on time, over 1.3million (a jump from about 400,000-500,000 in 2003) people in low-and middle-income countries were receiving treatment by 2005. For the fiscal years 2010-2014, the more recent efforts by PEPFAR (PEPFAR, 2014) among others, are to:

- “Support the prevention of more than 12 million new HIV infections;
- Ensure that every partner country with a generalized epidemic has both 80% coverage of testing for pregnant women at the national level, and 85% coverage of antiretroviral drug (ARV) prophylaxis and treatment, as indicated, of women found to be HIV-infected;
- Provide direct support for more than 4 million people on treatment, more than doubling the number of people directly supported on treatment during the first five years of PEPFAR;
- Support care for more than 12 million people, including 5 million orphans and vulnerable children (OVCs); and
- Ensure that in every partner country with a Partnership Framework, each country will change policies to address the larger structural conditions, such as gender-based violence, stigma, or low male partner involvement, which contribute to the spread of the epidemic.”

So what does this treatment strategy mean in Ghana? In Ghana, anecdotal evidence suggests that many people still do not have easy access to HIV treatment due to high unemployment and low-income rates among this population, and as a result, they are unable to afford transportation to the HIV clinics, make co-payment for the medications, and acquire other food and medication supplement, (NAP+ Ghana, 2013). Thus, even though access to Antiretroviral Treatment (ART) for HIV/AIDS has increased at the global level, the perception of those living with HIV/AIDS in

Ghana is somewhat different. Looking at these issues through a Ghanaian contemporary lens, having access to ART is still problematic for most persons living with HIV/AIDS in Ghana. A 2013 estimate of ART coverage for PLWA eligible for ART indicated that from 2010-2012 not all PLWA who needed ART were able to access the treatment (PEPFAR Ghana Operational Plan Report FY 2013). The report revealed that in 2010, 41% of the 94,971 adults eligible for ART received this treatment. The subsequent years saw annual increments in both the number of adults eligible for ARTs and the percentage of them who received the treatment. Fifty two percent (52%) of the 96,584 and 60% of the 99,622 adults eligible for ARTs did access the treatment in 2011 and 2012 respectively.

Introduction to the Setting and Relevant Terminology in this Study Area

HIV/AIDS is a major public health problem in countries with low resources such as Ghana. Even though HIV/AIDS is a disease that attacks people regardless of their social position or class, this study will sample people of lower socio-economic status in Ghana who attend support group meetings to improve their chances of accessing more resources by virtue of their membership in these groups in order to improve their quality of life. This sample is chosen mainly because it is a convenience sample, the respondents are mobilized, active, more likely to participate, and the organization was willing to partner with this researcher on the study and helped to reach a vulnerable and stigmatized population that otherwise might be very difficult to access. Therefore, this study aims at examining the impact of socio-demographic factors and social support on the lives of people living with HIV/AIDS. A brief review of some terms and concepts will introduce us to the setting and population of interest: HIV/AIDS in Ghana.

Developing Countries.

According to The World Bank, Ghana, which is the main country of interest in this study, is categorized as a developing country (2011). Using the Gross National Income (GNI) per capita calculation, The World Bank classified countries as developing, low income (GNI of $1,005 or less), and lower middle income (GNI of $1,006-$3,975) as of July 1, 2011 (The World Bank, 2011). Ghana has a GNI of $1,320 (World Health Organization [WHO], 2011), and thus a developing country because it has relatively low resources that cannot meet the material demands of its population (see Appendix A for the list of some developing countries in Africa).

Data on Life Expectancy in Developing Countries (Underlying Causes of Death).

Infant and child mortality rates are often used as major determinants of a country's socio-economic situation and health (see Gyamfi et al., 2009 for infant and child mortality issues in Ghana). The underlying causes of death among children are malnutrition and diseases such as measles and HIV/AIDS (Global Health Council, 2011). In Ghana, "the under-five mortality rate decreased from 111 per 1,000 live births for the period 0-4 years preceding the 2003 survey data gathering to 80 per 1,000 during the same period prior to the 2008 survey" (Gyamfi et al, 2009, p. xxiv).

According to Gyamfi et al. (2009, as reported by the National Population Council [NPC, 1994]), the life expectancy in Ghana in 1994 was 58 years and it was projected to increase to 65 years by 2010, and to 70 years by 2020 (See Appendix H for health statistics and health information systems of Ghana). Currently, the estimated life expectancy at birth for Ghanaians is 65.32 years (62.99 years for males and female: 67.71 years for females) (CIA, 2013). General causes of deaths among children, women, and men include malnutrition, malaria, Tuberculosis (TB), and

HIV/AIDS (Global Health Council, 2011). In the year 2009 alone, it was estimated by the CIA (2013) that 18,000 Ghanaians died as a result of HIV/AIDS.

Human Immunodeficiency Virus (HIV).

The HIV virus was first detected among a group of gay men in 1981 in the US (Avert, 2009, Gyamfi et al., 2009). In Ghana, HIV was first detected in 1986, and it is mainly transmitted through heterosexual means from an HIV positive partner to a partner whose HIV status is negative (Gyamfi et al., 2009). The HIV is a virus that is transmitted through having unprotected sex (sex without a condom) with someone who has HIV and also through other modes of HIV virus transmission (CDC, 2011; Barnett &Whiteside, 1999). According to the CDC (2011), other modes of HIV virus transmission include sharing of a needle among injection drugs users (intravenous drug use), from HIV positive mother to infant, and from a blood transfusion. Upon contact with body fluids, HIV attacks the body’s immune system (the body's defense against infection) and increases a person’s risk of infection of diseases. Without treatment, the immune system of most people infected with HIV will be severely compromised.

CD4+ T Cells (T-helper CD4 Cell) Count.

When the human body fluids come into contact with the HIV, this virus attacks the cells in the body’s immune system called the CD4+ T cells or T-helper CD4 cells (CDC, 2011). According to the CDC, these cells are responsible for keeping the body immune to diseases and infections. Therefore, when the HIV attacks the CD4 cells and the CD4 cell count falls as a result of this attack, this is an indication that the immune system is not working well and that the individual has become prone to other diseases such as opportunistic infections like TB. Preferably, the CD4 cell counts in someone with a healthy immune system range from 500 to 1,800 per cubic millimeter of blood (CDC, 2011).

People Living with AIDS.

When an individual's CD4 cell count gets below 200 per cubic millimeter of blood, AIDS is diagnosed (CDC, 2011). Alternatively, when CD4 cell count is over 200, AIDS can be diagnosed if the individual has HIV and certain opportunistic diseases such as tuberculosis or Pneumocystis Carinii Pneumonia (PCP) are present (CDC, 2011). In this study, people who are diagnosed with HIV/AIDS are referred to as People Living With AIDS (PLWA). According to the CIA, the 2009 estimates indicate that 260,000 Ghanaians live with HIV/AIDS with an adult prevalence rate of 1.8%

HIV Viral Load.

HIV viral load blood test is a test that measures the amount of active HIV in the blood. According to the CDC Morbidity and Mortality Weekly Report (MMWR) (2001), "monitoring human immunodeficiency virus type 1 (HIV-1) ribonucleic acid levels (also known as HIV viral load) has become the standard of care for monitoring response to therapy in HIV-infected patients. A study by CDC MMWR (2001) on the clinical and behavioral characteristics of adults receiving medical care for HIV found the following categories of viral load among the study participants: undetectable, detectable but <5,000 copies/mL, 5,000-100,000 copies/mL, and >100,000 copies/mL. The higher the value of the viral load test results, the more active HIV is present (CDC MMWR, 2001).

Anti Retroviral Therapy/Treatment (ART).

ARTs are a combination of medicines used to stop the reproduction of HIV virus and help HIV-infected persons to maintain lower levels of viral loads-at undetectable levels (CDC, 2011). Despite the documented effectiveness of ARTs, there have been controversies relating to having access to ART. For example, for years, the South African president Thabo Mbeki questioned the safety of and refused to support what has become ART (Virusmyth Homepage, 1999). There are also conspiracy beliefs that ART is genocidal, thus HIV is manmade, and that those on ARTs are merely human guinea pigs for the US government research studies (Bogart, Wagner, Galvan, & Banks, 2010). However, recent studies in 2010 showed that an estimated 28% of people at the advanced stage of HIV/AIDS in South Africa in 2007 received ARTs (Statistics South Africa, 2010) while 4%, 15%, and 21% had received the treatment earlier in 2004, 2005, and 2006 respectively. This increase in the percent of population served signifies a complete change in attitude and the ART program happens to be of the real success stories given its attitude during President Mbeki's tenure.

It is also possible that the long term health outcomes are different for those on ART than those who are not. For example, several studies have observed that individuals on effective ART who achieve long-term suppression of viral load to undetectable levels may exhibit periodic temporary increases in plasma viral load (CDC, 2011). These are generally small increases (between approximately 50 and 1000 copies/mL), and are estimated to last for short periods (<3 weeks)" (CDC, 2011, para. 5). It appears that PLWA on ARTs maintain lower viral loads.

Wealth and HIV.

Whiteside (2002) found that in both developed and developing countries, HIV spreads among people at the margins of society, the poor, and the dispossessed. In Africa where many are poor, the infection rate is higher (Gilbert & Walker, 2002; Whiteside, 2002). Another key finding in Whiteside's study was that economic growth/decline and stagnation may cause changes that encourage HIV spread. With equitable growth, there is the potential that people will become better off and there will be more resources to combat the disease, although more work need to be done in this area. In Ghana, household income plays a pivotal role in one's ability to access social support and experience a better quality of life.

The Demographic and Health Survey Report in 2008 by Gyamfi et al. (2009) indicates the average annual household income in Ghana is about GH¢1,217 (USD $558) while the average per capita income is almost GH¢400 (USD $184). There are regional differences with the Greater Accra region recording the highest average per capita income of GH¢544 (USD$ 250) whilst Upper West and Upper East regions had less than GH¢130 (USD $60). Thus, urban localities had higher per capita income than rural localities. According to Gyamfi et al.'s report, the three main sources of household income in Ghana are income from agricultural activities (35%), wage income from employment (29%) and income from self employment (25%), while remittances constitute less than 10 percent of household income. The annual estimated total value of remittances received in Ghana is GH¢547,571 million (USD $251,179 million) whilst the estimated total annual value of remittances paid out by households is GH¢231,344 million (USD 106,121 million) which represents 42 percent of all remittances received" (Gyamfi et al., p. viii).

The average exchange rate of Ghana cedi to the US dollar was 2.08 to 1 respectively as of October 2013. In this study, monthly income is measured in (Ghanaian cedis) as a continuous variable with four categories (low income [0-100.99], middle income [101-500.99], middle upper [501-1000.99], and high income [1001 or more]. Those earning less than 501 are not so well off as compared to those earning 501 or more.

Extent of HIV in Ghana

The Joint United Nations Program on HIV/AIDS (UNAIDS, 2009) estimates that 260, 000 of the 22.9 million people in Ghana are HIV positive, representing less than 3% of the total population. Though HIV prevalence rate dropped from 3.6% in 2003 (395, 000 adults between ages 15-49 years infected with the disease) to 2.3% in 2006 and declined to 1.4% in 2012, "the rate is of much concern because according to UNAIDS and the World Health Organization (WHO), any country with infection rates above 1% is still considered as having a generalized epidemic" (National AIDS/STI Control Programme/Ghana Health Service and GAC, September, 2005, as cited in Ansah-Koi, 2006 p. 556). To put Ghana's HIV prevalence rate into proper perspective, the adult prevalence rates of other Southern African countries as of 2012 are listed; Lesotho (23.10%), Botswana (23%), South Africa (17.90%) and Zimbabwe (14.70%) (CIA, 2013). Given the adult prevalence rates in these Southern African countries, the prevalence rate in Ghana is relatively low. In the year 2013, the adult prevalence rate increased to 1.8% (CIA, 2013). It is possible that the newly added taxes on condoms, might have contributed to the decline in condom use and the adult HIV/AIDS prevalence rate has increased as a result (Communication with a financial consultant on social projects in Ghana, October 30, 2013).

The UNAIDS' 2009 Report further gave the following facts about HIV/AIDS in Ghana;

- Adults aged 15 to 49 prevalence rate: 1.9% [1.7% - 2.2%]
- Adults aged 15 and up living with HIV: 250 000 [220 000 – 280 000]
- Women aged 15 and up living with HIV: 150 000 [130 000 – 160 000]
- Children aged 0 to 14 living with HIV: 17 000 [15 000 – 19 000]
- Deaths due to AIDS: 21 000 [18 000 – 24 000]

- Orphans[2] due to AIDS aged 0 to 17: 160 000 [130 000 – 200 000]

The HIV incidence rate has appreciably reduced (Ghana Health Service [GHS], 2014). According to the GHS, an estimated 2.6 million people became newly infected with HIV in 2010, nearly 20 per cent fewer than the 3.1 million people infected in 1999. Therefore, it is possible that the prevalence rate is going down as a result of the reduction in the incidence rate. As a result, HIV/AIDS related mortality rates have reduced from 2.1 million in 2004 to 1.8 million in 2009 (GHS, 2014). These trends signify, to a large extent, how well the PLWHA is receiving treatment with ARTs.

Statement of Problem and Research Questions

The purpose of this study is to add to the literature on HIV/AIDS, socio-demographic characteristics, social support, and QoL of PLWA with a special reference to one developing country: Ghana. Previous studies have employed qualitative and purely descriptive methodologies in drawing conclusions about the correlation between the variables (Booysen, 2004; Booysen & Summerton, 2002; Tladi, 2006). A preliminary step in understanding the socio-demographic factors and their relationship with the disease in developing countries is dependent on empirical outcomes that are based on psychometrically and quantitatively sound analytical framework.

Specific Aim 1:

The first aim of this study relates to identifying specific socio-demographic characteristics as well as understanding the role of social support of those diagnosed with HIV/AIDS in influencing quality of life. Without an understanding of what is likely to enhance the functioning of this population, it is impossible to determine

---

[2] According to the Department of Social Welfare in Ghana in 2005 (as cited in World Education, 2006, p. 11), “Any person below the age of eighteen (18) years who has lost one or both parents and is exposed to moral, physical and psychological danger as a result of neglect and/or abuse or incapacity whether or not a parent is alive.”

which of the variables may be targeted to improve their well-being. Given that one cannot change static variables like sex and marital status, findings from this study will likely help to identify subgroups in the population with lower quality of life that can receive treatment to help improve their quality of life.

Therefore, the first set of research questions is as follows:

1. Is there an association between overall social support and quality of life?
2. What demographic factors and subdimensions of social supports contribute the most to quality of life among individuals diagnosed with HIV/AIDS?
3. Will socio-demographic factors moderate the relationship between social supports and quality of life?
4. Are both socio-demographic factors and social supports of individuals with HIV/AIDS associated with their quality of life?

Specific Aim 2:

The second aim of this study is to understand differences in the receipt of social support and QoL in relation to socio-demographic characteristics of those living with HIV/AIDS in Ghana. Is there any evidence of differences in the receipt of social support and QoL between males and females diagnosed with HIV/AIDS? Are those individuals who are married more likely to receive more social support or score higher in QoL ratings compared to those who are unmarried? Is the level of education and employment status likely to play any role in these differences? Answers to these relevant questions are important to know in developing countries because of their implications for policy and better health and mental health outcomes of those diagnosed with HIV/AIDS. Therefore, the second set of research questions for this study is as follows:

5. Do social supports and quality of life among individuals diagnosed with HIV/AIDS differ by socio-demographic factors?
    5a. Is social support the same across socio-demographic factors?
    5b. Is quality of life the same across socio-demographic factors?

Although no known cure has been found for HIV/AIDS, the nature of the disease suggests that a comprehensive understanding of the role of socio-demographic factors and social support in the quality of life of the PLWA is necessary before an effective intervention can be prescribed, even though billions of dollars are being spent in Africa on HIV/AIDS education and prevention programs and treatment (Ghana AIDS Commission [GAC], 2010). This comprehensive knowledge is needed because findings continue to suggest that an understanding of the socio-demographic and social support determinants of the disease are vital for prevention and intervention (Barnett & Whiteside, 1999; Bloom & Mahal, 1997; Whiteside, 2002), despite tremendous progress that has been made at diagnosing and medically treating the disease. This study will identify what factors contribute the most to quality of life and will enable practitioners and policy makers to drive practice and policies in ways that will improve clients' chances of accessing resources (i.e., social supports) in order to further help them improve their quality of life. Given that HIV/AIDS is a public health issue in Ghana, knowledge of these factors will help administrators of HIV/AIDS- related programs and interventions increase the delivery of these factors, if possible, in order of priority. For example, given the cross-sectional nature of the study, if this study determines that employment status (being employed) and having tangible social support contribute most to the quality of life, then this results will be suggested to policy makers who may choose to influence policies in ways that will make these factors more readily available to practitioners so they deliver these factors (interventions) to PLWA.

Literature Search Strategy

The specific criteria for judging an article, gray literature, a book, magazine, etc. relevant for review is that the study was conducted preferably from 1980 to present, was conducted in any country, and especially a developing country, and the study is deemed relevant to the present study. Before starting the actual review, websites of bilateral and multilateral development organizations such as Center for Disease Control (CDC), World Health Organization (WHO), Joint United Nations Program on HIV/AIDS (UNAIDS), United Nations Educational, Scientific and Cultural Organizations, and United Nations Headquarters, New York websites were searched for basic definitions and human indices. Also, PEPFAR and other domestic and international non-governmental organizations' websites were searched for current facts about the HIV/AIDS epidemic, particularly in developing countries. This study will validate the studies that have examined the relationship between socio-demographic factors, social support and QoL among PLWA.

First, EBSCOhost, Academic Premier, MEDLINE, CINAHL, CINAHL with full Text, ERIC, Health Source-Consumer Edition, Psychology and Behavioral Sciences Collection, Social Work Abstracts SocINDEX with Full Text, and PUBMED searches (1980–2013) were used to identify all studies addressing the link between socio-demographic factors with social supports and the QoL among PLWA. Searches were limited to English language but were open to all countries. Generally, keywords pertaining to the independent variables were “gender”, “socioeconomic status,” “socioeconomic resources”, “HIV/AIDS”, “poverty”, and ‘educational’. Keywords pertaining to the outcome variable of interest were “social support”, “social network,” “social resources” “well being”, “quality of life,” and “health-related quality of life.”

When keywords such as “HIV/AIDS” and “poverty” or “socio-economic characteristics” were first searched, 400 articles were retrieved. To obtain empirical outcome studies that examined the predictive associations between demographic characteristics, social support, and QoL, several procedures were employed. First, Academic Premier, Social Work Abstracts, Google Scholar, SocIndex, CINAHL, Medline, PsycINFO, Web of Science, and PUBMED searches (1980–2013) were used to identify all studies addressing the link between socioeconomic status, social support, and quality of life among HIV/AIDS affected persons. Searches were limited to English language databases. Some keywords were first identified independently by this researcher and also through discussion among this author and the university librarians, and then expanded to include keywords discovered in published literature and through a database thesaurus.

Specifically, keywords pertaining to the independent variables (i.e., socio-demographic factors) were “gender,” “socioeconomic status,” “socioeconomic resources”, “poverty”, “educational status,” “socio-economic factors,” “income”, “social status,” “social class,” “marital status,” “education,” and “employment status.” Other relevant keywords related to independent variables searched include “social support,” “social support OR social support networks,” “social networks OR social capital OR social status,” and “social influence.” Relevant keywords that were used in searching the outcome variable include “health-related quality of life, “quality of life,” “life satisfaction OR quality of life,” “life satisfaction OR wellbeing,” “well being,” “psychological wellbeing,” “self esteem,” “HIV/AIDS,” and “coping.” Other general keywords to determine other sources of social support included “religion OR spirituality.” Other keywords included “prediction OR correlation OR influence OR outcome.” Finally, the keywords combination, “HIV OR AIDS OR HIV/AIDS, AND HIV infections” were used to identify studies that sampled PLWA.

Last, a hand search of the Journal of Health Care for the Poor and Underserved and the American Journal of Public Health from 1980-present was conducted. The archives of Journal of AIDS and HIV Research (which came into existence in October 2009) were also hand searched for relevant articles. The reference sections of all literature retrieved for review were also hand searched for potential literature important for inclusion in the review.

Based on the inclusion criteria (articles perceived as having the potential to capture all variables in the study), 63 out of the 403 were initially picked. The 340 articles were excluded because the titles and the abstracts did not match the theme of this research study: 180 were focused on assessing the impact of social support on dependent variables like coping and medication compliance, 100 studies examined HIV/AIDS and its impact on developing economies, 58 of the articles did not capture the main variables (socio-demographic factors and social supports) in the current study, and two of the articles were written in Spanish. Another set of 20 of the 63 articles originally selected were excluded after careful review of the purpose of the study, sample, major findings and the limitations of the study, leaving 43 articles eligible for this review.

Summary of Literature Synthesis

The synthesis of the literature in the various study settings helped reveal that socio-demographic factors and social support predict quality of life among PLWA. Thus, a significant relationship was found between social support, demographic factors and quality of life. This review supports the fact that demographic characteristics and social support variables are significant predictors of quality of life, although the majority of the studies in this review were conducted in developed countries. Because only a few of the studies were conducted in developing countries, more research that examines the impacts of socio-demographic characteristics and social support on QoL is needed in this region of the world.

Overview of Quality of Life

Culturally, although quality of life is a newer concept in a developing country like Ghana, it is anecdotally conceptualized as the state of general health of the people. According to the Network of Persons Living with HIV/AIDS in Ghana ([NAP+ Ghana], 2011), quality of life is measured differently using different indicators in various studies. The NAP+ Ghana concludes that there are no standardized instruments for measuring quality of life in Ghana. Thus, some studies on socio-demographic factors and general health in Ghana have measured quality of life using unstandardized indicators such as delivery of justice, quality of education; improvement in general poverty levels, improvement in general sanitation levels, improved maternal and infant mortality rates, and high economic growth rate (NAP+ Ghana, 2011).

People Living with HIV/AIDS (PLWA) in many countries, and especially in developing countries report a significantly lower Quality of Life (QoL) (Buseh, Kelber, Stevens, & Park, 2008; Diamond, Taylor, & Anton-Culver, 2010; Eriksson, Nordstrom, Berglund, & Sandstrom, 2000; Fan, Kuo, Kao, Morisky, & Chen, 2011; Perez et al., 2009; Ryu, West, & Sousa, 2009; Tsevat et al., 2009). Perhaps, reports on quality of life are significantly lower because in developing countries, having access to medicines and other material/economic resources that can improve the overall quality of life can be challenging for PLWA who are already overburdened with the socio-economic consequences (such as discrimination and unemployment) of the disease. It is important to note that the experiences of PLWA in developed societies might be different from their counterparts in the developing world because of the easier access they might have to health care and other economic resources. For example, a study conducted in Ghana by Gyamfi et al. (2009) reported that the attainment of national strategic goals–reducing fertility rates, reducing population growth, and increasing life expectancy-will likely improve the quality of life of all Ghanaians. This study did not culturally define the concept of quality of life as it pertains to the general and the chronically ill population in. However, among a chronically ill population, a pretesting of the QoL instrument (to be used later in this study for data collection) by this researcher on a convenient sample of PLWA in Accra, Ghana suggested that quality of life is conceptualized as the state of general health of a chronically ill person. A search for a cultural definition of quality of life through a modified systematic review by this researcher did not find any definition within the Ghanaian context and developing countries in general. Although the experiences of HIV and QoL of PLWA in developing countries are different for their counterparts in the developed world, the concepts are understood similarly in both societies. For example, in the US, quality of life is defined as "a broad range of human experiences related to one's overall well-being” (Revicki et al., 2000, p. 888). This definition implies that the assessment of one’s quality of life is based on the individual’s subjective evaluation of general health.

According to Cella (1994), the construct of quality of life is primarily multidimensional in nature, and is also assessed by analyzing the person’s perceptions and experiences about their own ratings of physical and mental functioning. This author identified some of the dimensions of quality of life as “physical, functional, emotional, and social well-being” (p. 187). In this study, the domains of quality of life proposed by Wu, Revicki, Jacobson, and Malitz (1997), which include general health perceptions, pain, physical functioning, role functioning, social functioning, mental health, energy/fatigue, cognitive function, health distress, and overall quality of life will be analyzed.

Moreover, the literature indicates that PLWA with poorer socio-demographic conditions (e.g., being homeless) experienced lower mental health functioning (Perez et al., 2006). Furthermore, most research on socio-demographic and health correlates of HIV/AIDS have generated findings that suggest some direct and cyclical relationships between socio-economic growth and HIV/AIDS and quality of life (Bloom & Mahal, 1997; Bloom, Urassa, Ng'weshemi, & Boerma, 2002; Galobardes, Lynch, & Davey, 2004; Link & Phelan, 1995; Pickett & Pearl, 2001; Smith, Hart, Blane, & Hole, 1998; Whiteside, 2002; Yen & Syme, 1999). Despite increasing evidence of these relationships, their relevance is perhaps firmly established in developed countries where variations in socio-economic backgrounds are widespread and treatment for HIV/AIDS is accessible. In developing countries, where variations in socio-economic and health status is less widespread and where access to modern treatment of HIV/AIDS is restricted, little is known about the impacts of socio-demographic correlates on their QoL.

Socio-demographic Factors and QoL

The socio-demographic factors that will be assessed include age, gender, employment status, educational status, income, and marital status. Other demographic factors like race and sexual orientation are not included for assessment because they are irrelevant for use in the study setting. Overall, socio-demographic and psychosocial characteristics are related to physical functioning (Hasanah & Mahiran, 2011).

Income and QoL.

People of lower socio-economic status experience lower physical health functioning (Liu et al., 2006; Sun, Wu, Qu, Lu, & Wang, 2013). Camfield and Skevington (2008) studied the impact of health factors on Subjective Well-Being (SWB) and QoL. They found that there was a curvilinear relationship between income and SWB. Other demographic factors such as age and gender have mixed results regarding their influence on quality of life.

Age, Gender, and QoL.

In a study that assessed the impact of some demographic factors and pain, a domain of QoL found that age, gender, symptoms of fatigue, depression, and anxiety were not significantly related to pain (Aouizerat et al., 2010). Similarly, age, ethnicity, and gender were not associated with quality of life in another study that examined health status, religious affiliation, and religious faith (Flannelly & Inouye, 2001). However, age (being older) was associated with lower physical functioning (Bajunirwe et al., 2009; Figuero, et al., 2011; Liu et al., 2006; Perez et al., 2009), better psychological QoL (Grimsley, 2003), more comorbidities (Nokes et al., 2009) and lower quality of life (Ryu et al., 2009; Sun et al., 2013; Tangkawanich et al., 2008) in these studies that assessed the factors influencing health-related quality of life (HRQOL). However, age positively correlated with QoL in a study conducted in some Southern states in the USA (Vyavaharkar, Moneyham, Murdaugh, and Tavakoli, 2012). Thus, as age increased, QoL also increased. This phenomenon implies the older people reported a better QoL. These inconsistent results on age by Rye et al. and Vyavaharkar et al. may be due to the differences in gender of the sample and the settings of both studies. Thus, the former study sampled females while the latter studies males only. Even though both studies were conducted in the USA, the former was conducted in the South whereas the latter sampled their respondents from the West Coast. In Ryu and colleagues' study, age also moderated the association between HIV/AIDS symptoms and quality of life. Perhaps, age and gender did not relate to QoL in Aouizerat's study because of the limitations of the study-which include the use of a convenience sample. Thus, the responses from a randomly selected sample may have differed.

Poor women are disproportionately vulnerable to the HIV/AIDS epidemic (Bloom & Mahal, 1995a; Booysen, 2004; Booysen & Summerton, 2002; Gillespie, Greener, Whiteside, & Whitworth, 2007; Tladi, 2006). Women, compared to men, consistently reported lower QoL (Abasiubong, Ekott, Bassey, Etukumana, & Edyang-Ekpa, 2010; Cederfjäll et al., 2001; Mrus, Tsevat, Cohn, & Wu, 2005; Skevington, Norweg, & Standage, 2010; Sowell, Seals, Moneyham, Demi, Cohen, & Brake, 1997; Subramanian, Gupte, Dorairaj, Periannan, & Mathai, 2009) and lower cognitive functioning (Figuero et al., 2011) but in Figuero et al.'s study, women reported less pain than men. It appears that women across many studies have reported a lower QoL as compared to men with the exception of Figuero et al.'s study. Perhaps, women's tolerance to pain is higher than that of men or their expression of somatic symptoms differ from that of men. It is therefore important to conduct more studies to determine why women and men differ on the various QoL domains. In the current study, the pain subscale of the QoL instrument will be used to measure pain level among both genders and the data will be analyzed separately by gender.

Studies of HIV/AIDS and transportation centers report high rates of infections along areas where workers migrate (Calmin et al., 2010). According to the Calmin et al.'s study, female migrants are more prone to HIV infection than their non-migrant counterparts, even though more males leave for work and bring home HIV/AIDS and blame it on the women.

Employment Status, Marital Status, and QoL.

Rueda, (2011) found that being employed was strongly related to better physical and mental health QoL. Compared to their non-working counterparts, those who were employed were more likely to report a better quality of life (Rüütel, Pisarev, Loit, & Uusküla, 2009). Unemployment significantly related to increased subjective cognitive symptom burden and higher level of depression (Atkins et al., 2010). Regarding marital status, being single and living alone, predicted higher scores for general health perceptions (Li et al., 2010).

Education and QoL.

Higher educational levels related to lower levels of cognitive symptom burdens (Atkins et al., 2010). Coombe and Kelly (2001) suggested that knowledge about HIV/AIDS, coupled with attitudes and values that will lead to appropriate decisions can help protect people against the infection and also help improve their QoL. As education becomes a universal right and accessible to all, it becomes more acceptable for women and girls to become more involved in decisions affecting themselves-and thus affecting their sexual and social lives, thereby reversing the HIV trend (Coombe & Kelly, 2001). However, there are differences between general education (years of schooling) and HIV/AIDS education/knowledge. According to a survey report in Ghana, 98 percent of women and 99 percent of men know of AIDS, although only one in four women (25%) and one in three men (33%) are fully knowledgeable of the prevention and transmission of HIV/AIDS (Gyamfi et al., 2009). This survey also indicated that general education provides people with the knowledge and skills that can influence a better quality of life (Gyamfi et al., 2009).

The survey found a close association been level of education and the health of women and children. A positive relationship was also determined between the reproductive health behaviors of women and men and their level of education. Thus, women and men who have completed more years of schooling demonstrated the likelihood to make positive reproductive health choices. On the other hand, HIV/AIDS knowledge is gained through counseling (expert advice from professional counselors to patients and their relatives) and finding information from mass media sources like television, radio, newspapers, brochures, fliers, etc. (Awusabo-Asare, 1995). While Coombe and Kelly argues that general/formal education increases one's tendency to acquire more knowledge about HIV/AIDS or sexually transmitted diseases (STDs) and positively affect the sexual behavior of highly educated people, Awusabo-Asare (1995) suggest that increased HIV/AIDS knowledge among both highly educated and the less educated is analytically important for controlling the spread of the disease. According to Awusabo, HIV/AIDS education and knowledge changes "people's attitudes not only towards the disease and infected persons, but also to the adoption of lifestyles that will not predispose people to infection" (p. 229). Therefore, having HIV knowledge influences the attitudes of both the educated and the less educated in terms of their sexual behavior and how they manage the disease.

Alternatively, some argue that people with higher educational credentials (general education) are less vulnerable to HIV infection (Coombe & Kelly, 2001; Tladi, 2006). In Lusaka, Zambia, for instance, the decline in the prevalence rate for 15-19 year old women was higher for those with secondary and more years of advanced/tertiary education than for those who did not have more than elementary school education (Fylkesnes et al., 1999 as cited in Coombe & Kelly, 2001). This study contradicts Booysen and Summerton's finding about lack of condom use among educated people. Current information about people who have become sexually active in recent times (after behavioral correlates of HIV spread are understood by many) and their behavior towards sexual activities, such as those in the Lusaka study concluded that more educated people are now less vulnerable to HIV infection. In a closing argument on how education can enhance the capacity of making discerning use of information, Coombe and Kelly made the following statement: “Becoming literate is arguably the most basic change that education effects. An educated person can garner and internalize information from a wide variety of sources. Moreover, sound educational background helps one pay close attention to information and helps people to develop the ability to analyze and evaluate information” (p. 441).

In addition, HIV/AIDS knowledge or having information about available medication or affordability of treatment has been associated with education. Thus, those who are less educated may be less aware of available medication for treating HIV/AIDS and may not be able to afford necessary treatment (Tladi, 2006). Therefore, the intellectual skills developed through formal education help people assess information related to HIV/AIDS and the educated people are more likely to earn higher incomes and this higher earning capacities enable them to afford their needed medications (Sun et al., 2013). In a single study, being female, separated or divorced, having less CD4+ count, level of education and being at the severe stage of the disease predicted poorer QoL (Nojomi, Anbary, & Ranjbar, 2008).

However, it is important to assess the knowledge and perception of what constitutes risky behaviors among PLWA to help determine whether knowledge and perception of HIV-related risky behavior vary by socio-demographic factors (Cornelius, Okundaye, & Manning, 2000). In this study, knowledge and perception of what constitutes HIV-related risky behavior will be measured and controlled for in examining the relationship between education (years of schooling) and quality of life. The following items (from the National Survey for Family Growth which Cornelius, Okundaye, & Manning used to collect data regarding the knowledge of HIV risky behavior) will be used to measure knowledge and perception of risky sexual behaviors:

1. “Number of sexual partners?”
2. “How often did you or your partner use condom for disease protection in the last 12 months?
3. “What would you say are the chances that you have had sexual intercourse with someone who might be infected with HIV-the virus that causes AIDS?” Response options are “low,” “medium,” and “high.”

Responses will be dichotomized as “have adequate knowledge of” versus have poor knowledge of HIV-related risky behaviors.

Overview of Social Support

Williams et al. (2004) define social support as the “interpersonal transactions that include some combination of aid or instrumental assistance, affirmation, and affection” (p. 107). According to Sherbourne and Stewart (1991) the dimensions of social support that influence quality of life are tangible (e.g., someone to assist you with daily activities like accompanying you to the doctor or help prepare your meals), affectionate (e.g., someone who shows you love), positive social interaction (e.g., someone to spend time with and engage in an enjoyable activity with), and emotional/informational support (e.g., someone you can count on to listen to you when you need to talk/someone to give you information as needed). These dimensions of social support proposed by Sherbourne and Stewart (1991) were selected for use and will be evaluated in this study because their study was conducted as part of the Medical Outcomes Studies and represents a comprehensive study of social support.

The role of social support in mitigating the impacts of HIV/AIDS has been given limited attention in empirical research, despite some evidence of its positive relationship to QoL (Gielen, McDonnell, Wu, O'Campo, & Faden, 2001). Having social support improves one's chances of accessing resources such as medication, food, transportation to clinics and support group meetings, to mention a few, and consequently results in better quality of life. For example, the lack of or limited access to social support presumes poor QoL among people living with AIDS.

Socio-demographic Factors and Social Support.

Given the high rate of sexual and physical violence (Gielen, Fogarty, O'Campo, Anderson, Keller & Faden, 2000; Vlahov et al., 1998), there is evidence that women, compared to men, experience lower rate of social support (Catalan et al., 1996; Cederfjäll, Langius-Eklöf, Lidman, & Wredling, 2001; Kohli, Sane, Kumar, Paranjape, & Mehendale, 2005; Linn, Poku, Cain, Holzapfel, & Crawford,1995; Solomon et al., 2008).

Social Support and QoL.

In addition to lack of information about socio-demographic correlates of quality of life among those diagnosed with HIV/AIDS in developing countries, little is known about the role of social support in determining QoL among the population in developing countries, despite extensive knowledgebase, particularly in the West, that suggests that quality of life is positively associated with strong social support and self-care behaviors (Bajunirwe et al., 2009; Burgoyne & Renwick, 2004; Folasire, Irabor, & Folasire, 2012; Gielen, McDonnell, Wu, O'Campo, & Faden, 2001; Tangkawanich, Yunibhand, Thanasilp, & Magilvy, 2008; Vyavaharkar et al. 2012).

This dearth of knowledge is in part expected, given that many instruments used to measure relevant variables in developed nations may not be used to measure similar variables in developing countries. Many studies regarding HIV/AIDS, social support, and quality of life in developing countries use a qualitative approach (Coombe & Kelly, 2001). It is possible that qualitative approaches are used often in studying the phenomenon because cultural adaptations of instruments require specific technical knowledge of quantitative methodology and are time-consuming. Conclusions from such qualitative studies have been less relevant for decision making or useful for formulating policies for ameliorating the socio-economic, health, and mental health challenges of those diagnosed with HIV/AIDS in developing countries.

To enhance the validity and reliability of these instruments when used outside of the United States, the instruments undergo cultural adaptation to ensure the constructs in the measures are culturally relevant to the respondents in the study. For example, a study of a group of both HIV-infected and uninfected Ugandan women using the Lugandan version of the instrument resulted in reliability coefficients 0.70, except for role functioning (0.51), energy (0.66), and cognitive function (0.69) (Mast, et al., 2004). By using principal component analysis to determine the underlying factors in the QoL instrument, the tool demonstrated adequate construct validity as factor analysis of the data supported the presence of the physical and mental health components of the original instrument (Mast et al., 2004). Thus, the tool has only been adapted for use in Uganda (Lugandan language) in Africa. The tool has not yet been adapted for use in any West African country. Therefore, more research efforts in developing countries that are geared towards examining HIV/AIDS relationships from quantitative perspectives are needed.

The extent to which these infected people have access to social support is not studied extensively and is undocumented in the HIV literature on Ghana. This researcher consulted with expert Ghanaian researchers in the field of HIV/AIDS and QoL among PLWA in Ghana. It was found that majority of the PLWA in Ghana may either have limited social support or none, especially because of the gap in the research and lack of interventions that help improve clients' knowledge of available social support. In addition to this finding, an on-going qualitative study of selected HIV support groups in Ghana by a group of researchers in the University of Ghana are gathering data that suggest that PLWA lack social support, are not knowledgeable about social support systems, and experience poor QoL. Anecdotal evidence from this study suggests that this client population generally report poorer QoL. Social support was the strongest predictor of physical functioning, mental functioning, and overall quality of life of PLWA in a selected province in China who contracted HIV through sexual intercourse (Sun et al., 2013). It is possible that those living with AIDS are left to identify needed sources of social support through their own efforts, and may be in serious lack of social support as a result.

Better emotional support predicted higher CD4 cell counts and improved QoL (Bhargava & Booysen, 2010), social support positively related to QoL (Abboud, Noureddine, Huijer, DeJong, & Mokhbat, 2010; Cederfjäll et al., 2001; Diamond et al., 2010; Douiahy & Singh, 2001; Hansen, Vaughan, Cavanaugh, Connell, & Sikkema, 2009; Hayajneh & Al-Hussami, 2009; Nichols, Tchounwou, Mena, & Sarpong, 2009; Saunders & Burgoyne, 2001), mental health QoL (Nunes, 1995), and quality of life especially among older people (Muñoz et al., 2010). Specifically, increased social support predicted lower levels of cognitive symptom burden (Stewart, Cianfrini, & Walker, 2005) and less social support significantly decreased mental health functioning(Kimuna, 2004). There was a significant relationship between improved family functioning with social support and better quality of life, self-perceptions of health and mental health (Rotheram-Borus, et al., 2010). Jia et al. (2007) also found that more social support increased coping level, but increased comorbid conditions and longer HIV infection duration were negatively related with multiple quality of life dimensions at both baseline and 12 months.

Patients on (ART) (a form of tangible support) or on other treatment protocols reported improved physical, emotional, and mental health, and daily functioning (Atkins et al., 2010; Perez et al., 2009). Because of these medications, many HIV-infected persons are able to reduce their viral load. Data suggest that HIV-infected persons with undetectable viral load are less infectious, and may be less likely to transmit HIV via sexual contact. Again, instrumental support was positively associated with quality of life (Kauf et al., 2008). Therefore, an understanding of the impacts of social support and gender-specific mechanisms to improve quality of life would enhance quality of life and subsequent longevity among individuals living with HIV/AIDS. Moreover, Beard, Feeley, and Rosen (2009) have suggested that focusing on the depressive symptoms, activity, and coping strategies as part of comprehensive treatment regimen-that provide social support-can significantly control pain and improve the overall quality of life of PLWA.

A qualitative study by Kauf et al. (2008) examined the lack of support among PLWA in the Potchefstroom district of South Africa. The themes for support identified include “facilitative and impeding experiences of poverty-stricken people living with HIV, basic, psycho-social needs, cultural-spiritual, and self-actualization needs” (p. 55). They also found that the experiences of poor PLWA in the district are closely related to their support needs. These authors argued that the individual needs as well as the collective needs that positively predict the quality of life of the PLWA must be addressed using a holistic approach.

Some studies suggest that family support in the form of emotional and/or tangible support makes multiple levels of positive impact on people living with HIV/AIDS (Kimuna, 2004; Kowal et al., 2008; Mohanan & Kamath, 2009). However, a systematic review conducted by Mohanan and Kamath did not reveal any trials of tangible support from family members in reducing the morbidity and mortality in HIV-infected persons in developing countries. The authors therefore concluded that there is a clear need for rigorous studies of the clinical effects of family support on people with HIV in developing countries. Having children or not influences access to social support (Li et al., 2010).

Children often provide care services to parents and relatives living with HIV/AIDS, and are also charged with the responsibility of heading the household (Avert, 2009). Stewart et al. (2005) discovered that PLWA without children reported greater pain experiences, health distress, and better cognitive functioning than those with children. It is possible that having children and receiving support from them help comfort PLWA and consequently reduce their pain level significantly. In addition, PLWA without children reported higher scores for general health perceptions, energy, quality of life, and, physical functioning, while those with children functioned better with regards to their mental health (Kudel, 2011). An understanding of the impact of social support and gender-specific mechanisms to guide policy formulation would enhance longevity among individuals living with HIV/AIDS. Some aspects of social support inadvertently provide spiritual wellbeing.

Similar studies that examined social support and its impact on the quality of life of clients with high and low use of a community-based AIDS service

Organizations (CBAOs) (Feitsma, Koen, Pienaar, & Minnie, 2007)and Home-Based Care (HBC) (Li et al., 2010), found that service use reduced client isolation(Ma et al., 2007) and improved their quality of life(Crook, Browne, Roberts, & Gafni, 2005). The users of both emergency room services and complementary therapies reported moderate QoL (Kabore et al., 2010). On the other hand, high users of agency services (tangible, or emotional support) compared with low users were single, lived alone, and reported poorer health (Crook et al., 2005). Compared to the control arm in a randomized clinical intervention trial, general health and mental health among participants in the intervention significantly improved (Crook et al., 2005; Kabore et al., 2010). Other studies found that effective clinical care for symptomatic PLWA can improve their quality of life over time (Crook et al., 2005; Solomon et al., 2009).

Louwagie et al. (2007) examined a path model explaining the relationship between social services on the achievement of intermediate outcomes (i.e., ceasing substance use, accessing ART, and acquiring stable housing) and the impact of intermediate outcome status on quality of life through a longitudinal design. Using ARTs (an intermediate outcome which was acquired through the assistance of social services) significantly improved QoL. Housing stability positively influenced physical health status (Magafu, et al., 2009) HIV disclosure, family sociability, and number of children per family were found to be significant predictors of overall quality of life (Chin, Botsko, Behar, & Finkelstein, 2009).

It is evident that in the Highly Active Antiretroviral Therapy (HAART) era, most PLWA who adhere to Antiretroviral Therapy (ART) live a better quality of life (Hartzell, Janke, &. Weintrob, 2008). In addition to medication, those with the various forms of social support (tangible, emotional, etc.) reported better quality of life than those who lack social support (Aston et al., 2005).

Social Support, Demographic Factors, and QoL.

Little is known about the extent available social support (e.g., emotional/informational, tangible, affectionate, and positive social interaction) is related to quality of life across socio-demographic characteristics, especially for women in comparison to men in developing countries. In addition to the influence of social support, socio-demographic factors exert great influence on quality of life among PLWA. For example, past studies have found that some forms of social support (subjective and instrumental) (Mahanadi, Ajani, Ten Have, & Oslin, 2009), predict some dimensions of quality of life (physical functioning, role functioning, and social functioning, etc.) (Jia et al., 2004) and socio-demographic factors such as age (Mavandadi, Zanjani, Ten Have, & Oslin, 2009) play an important role in determining one's quality of life. Ncama et al. (2008) examined the role of demographic factors such as age, gender, and marital status and the differences in social support and quality of life among PLWA. They concluded that socio-demographic factors and social support are predictive of quality of life. This conclusion helps establish the necessary interconnectedness of socio-demographic factors and social support with quality of life and lays the foundation for explaining how the logic model for the relationship between these variables might work.

Rationale for the Study

None of the studies reviewed examined the relationship between demographic factors, social support, and quality of life among a Ghanaian sample. The two studies in this review that were conducted in Ghana (Awuabo-Asare, 1995; Konadu-Agyeman, 2004) did not specifically use socio-demographic factors and social supports to predict QoL among the respondents. There is therefore the need to study demographic factors and the various forms of social support and their relationship with quality of life in Ghana.

In developing countries in general, social workers provide services for women, children and families of those diagnosed with HIV/AIDS. Despite the extensive knowledge base of information that may enhance a social worker's ability to provide appropriate intervention in developed countries, a major challenge to providing relevant services in developing countries relates to lack of empirical evidence to guide intervention delivery/clinical practice.

Empirically-based evidence about social dimensions of services and effective mechanisms that are informed by empirical evidence is sparse and thereby poses hindrances to service delivery to those diagnosed with HIV/AIDS. Similarly, decisions by politicians for policy formulation and implementation in most developing countries are not guided by research evidence. Therefore, social work interventions in these societies are informed by policy prescriptions that are not guided by research evidence. As a result, interventions by social workers have less meaningful impact on the lives of PLWA. By examining the issue of socio-demographic factors, social support, and quality of life among PLWA, clinical practitioners will be informed of the best practices necessary for delivering social support intervention(s) in ways that will help improve the quality of life among of PLWA. Likewise, quality of life among policy decisions for PLWA will possibly be guided by research evidence. Given that this research is a preliminary study on this topic in Ghana, other researchers can build on the research knowledge in this area by using the knowledge gained from this study as a building block.

Differences in the Experience of QoL in Low-resource versus High-resource Countries

As found in the literature review, the experiences of quality of life in low-resource and other countries are similar. Specifically, the literature review found that the studies conducted in low resource countries reported significantly lower quality of life than do studies from other high resource countries. For example, studies conducted in Ghana, Uganda, Malawi, Namibian Zimbabwe, and South Africa all reported significantly lower quality of life (Bajunirwe et al., 2009; Beard et al., 2009; Booysen & Summerton, 2002; Coombe, 2001; Gielen et al., 2001; Gilbert & Walker, 2002; Gillespie et al., 2007; Kabore et al., 2010; Kimuna et al., 2004; Konadu-Agyemang, 2001; Louwagie et al., 2007; Magafu et al., 2009; Mrus et al., 2005; Selman et al., 2010; Ssewamla et al., 2008; Whiteside, 2002; Yadav et al., 2010). Similarly, studies from other high resource countries reported low quality of life among PLWA (Aouizerat et al., 2010; Burgoyne & Renwick, 2004; Crook et al., 2005; Friedland et al., 1996; Hansen et al., 2009; Nokes et al., 2011; Nunes et al., 1995; Rao etal., 2007).

Blending US Research with Non-US Research

As indicated in the literature review, the studies conducted in hihh resource countries and particularly in the US reported low quality of life among PLWA (Aouizerat et al., 2010; Chin et al., 2009; Gielen et al., 2001; Hansen et al., 2009; Jia et al., 2007; Liu et al., 2006; Mrus et al., 2005; Nichols et al., 2009; Nunes et al., 1995; Ryu et al., 2009; Stewart et al., 2005). These reports from the US research inform work in other parts of the world. For example, this current study is informed greatly by the research findings in the US. According to the findings of the research synthesis, the US research blends well with non-US research recognizing that, socio-demographic factors and social support influence quality of life among PLWA but the reports of quality of life are significantly lower in developing countries as compared to US settings.

In conclusion, although the relationship between socio-demographic factors with social support and QoL among PLWA has been studied extensively in most developed countries, some Asian and African countries, the topic has received little/no attention in Ghana. Only two empirical studies (Awuabo-Asare, 1995; Konadu-Agyeman, 2004) from the literature in this study were conducted in Ghana. None of the two studies examined the impact of the various forms of social support on QoL among PLWA in Ghana specifically. Furthermore, most of the studies reviewed were not guided by a theoretical framework. Therefore, the present study served as a preliminary guide to help determine the relationships among variables in the study in a Ghanaian sample. It is possible that other unique characteristics about the nature of HIV/AIDS in Ghana will be detected which might help direct policy and practice in this community.

Chapter 2

Theoretical Framework

The HIV/AIDS pandemic is a global health issue that has social implications for PLWA. Extensive conceptual studies on the social determinants of health have been conducted at the global level and these perspectives are summarized in the WHO Social Determinants of Health Report (WHO, 2010). There has been a considerable impact of the report on global health, particularly outside the U.S. The resulting conceptualizations from the report are discussed along with specific social determinants of health, social support, social networks, and social capital.

The Social Determinants of Health

Even though the health of people is determined largely by individual life and biological factors, social and environmental factors also play a key role in determining the health of people. According to Hofritcher (2001, p. 11, as cited in WHO, 2010), “social determinants of health are those conditions of life deeply connected to the foundations of existence, to the entirety of economic and social life—quality and affordability of housing, level of employment and job insecurity, standard of living, availability of mass transportation, quality of education, war, social exclusion, early childhood stress, development of new technologies, clean air and water, forms of clean economic development, racism, poverty, distribution of resources, social services, chronic stress, a healthy ecosystem and workplace conditions.” Hofritcher further argued that the “entire social environments, including the distribution of power and privilege may play a role in the health of populations, such as social networks, educational systems, and family structure” (p. 11). Therefore, it is necessary to consider, in depth, the social determinants of health while studying the quality of life of people living with a chronic disease like HIV/AIDS. It is likely that those from more affluent backgrounds and of higher socio-economic statuses will have better access to essential social determinants of health like a healthy ecosystem and experience higher quality of life than their counterparts from lower socio-economic backgrounds.

Furthermore, Chernoma (1999) indicated that even though the germs and genes play a major role in disease determination, the environment in which germs and genes operate is more important in determining disease. This statement suggests that the social environment in which an actor is located determines the health of the actor. Thus, people living in deprived communities are more likely to experience poor health even after controlling for individual moderating factors (Smith, Hart, Watt, Hole, & Hawthorne, 1998). According to Smith (2005), the combination of income, education, occupation, and wealth-making up one's social class-determines to a large extent one's health and quality of life. Smith indicated that the highly educated, the richer, those with better paying jobs, and those who are well connected to influential people in America stand a better chance of experiencing increased life expectancy given the advancement in medicine.

At the global level, the social determinants of health operate similarly. Thus, the richer and more educated people have better access to health care services and are healthier than the poorer and less educated populations. The determinants of health are complex in nature. Thus, "the Commission on Social Determinants of Health (CSDH) was set up by the World Health Organization (WHO) to get to the heart of this complexity" (WHO, 2010, p. 4).

Regarding global health solutions, there has always been a constant debate between focusing on technological advancement in medical care and public health approaches and the acceptance of health and disease as a social issue needing interdisciplinary policy actions (WHO, 2010). The WHO 2010 report suggests that the social determinants of health need to be managed in order to improve health inequity.

Health inequity, also known to as socioeconomic health inequity, refers to the unfair distribution of health-related resources and the significant differences in health among population groups defined by socio-economic, demographic, and geographical differences among these populations (Hofritcher, 2001; WHO, 2005). This definition suggests that unfairness within the health systems and the unequal access to health care services due to social factors like class, employment, income, etc. puts the less advantaged at higher risk for ill-health. The report also emphasized psychosocial approaches, social production of disease/political economy of health, and eco-social frameworks as the three main theoretical bases, driven by social position for explaining the health of people. Furthermore, it is believed that social position is influenced by both collective social power and social causes of health among the elite and the less dominant classes in the society. The WHO (2010) has developed a conceptual framework for the action on the social determinants of health.

According to the WHO (2010), it is conceptualized that the socio-economic and political context including governance, macroeconomic policies, social policies, public policies, culture and societal values in addition to factors such as education, gender, income, social cohesion, and social capital form the structural determinants of health and determines health inequities. These factors further influence material circumstances which include living and working conditions, food availability as well as behavioral, biological, and psychological factors all together constituting social determinants of health. The combination of the socio-economic context, material circumstances, and the health system predict equity in health and the health-related quality of life of a population.

How Does the WHO Report Blend with the Complexity of the Situation in Ghana?

The document emphasizes social factors as strong predictive factors of health equities for the less and more advantaged people in the society. In Ghana, a developing country, the health inequities experienced by the less advantaged is a reality. Given the previous discussion of the health and social policies in Ghana, it is evident that the poor are unable to access the few quality health resources in the country. The less advantaged is also disproportionately vulnerable to diseases because of their likelihood to be exposed to unsanitary and hazardous environmental conditions and experience malnutrition making them more vulnerable to diseases. In this study, a great majority of the participants that were examined are less advantaged. Given that unemployment rate is high in Ghana, and the respondents are less educated and are likely to be less healthy, the majority of the respondents and the community of people living with HIV/AIDS in general are unemployed. Compared to their non-HIV affected less advantaged counterparts, they experience a relatively severe health inequity because of their inability to work and earn income and become capable of accessing health care services and specific HIV/AIDS treatment. As a result, many PLWA in Ghana and in many developing countries have formed support groups to collectively combat and significantly reduce the impact of these health inequities to enhance a better quality of life for themselves (Network of Persons Living with HIV/AIDS [NAP+], Ghana, 2010).

Theories Driving this Study

According to the European sociologists Haralambos and Holborn (1991), a theory "is a set of ideas which claims to explain how something works" (p. 8). A theory is also referred to as "logically related propositions that aim to explain and predict a fairly general set of phenomena" (Carpiano & Daley, 2006a, p. 565). Even though the socio-demographic and social support correlates of HIV/AIDS have been widely studied in the developed and in few developing countries, most of the existing studies were not theory-driven. This study was guided by the main intersection domains of the theories of social capital, social networks and the social support theories.

These theories are proposed for use because this study seeks to examine how social networks will influence social capital formation which will in turn drive the receipt of social supports and how these social supports influence quality of life across socio-demographic factors. For the population in Ghana, it is hypothesized that those who have access to more social capital as a result of their social networks (relationships with family, friends, and membership in groups) are expected to receive more social support and report better quality of life than those who report less/no form of social support (see Figure 1).

Social Capital Theory.

Social capital refers to connections and ties within and between social networks that individuals are able to use to obtain other forms of capital/goods and services. These goods and services are the result of social capital (Oakes & Rossi, 2003). According to Woolcock and Narayan (2000) "one's family, friends, and associates constitute an important asset, one that can be called upon in a crisis, enjoyed for its own sake, and/or leveraged for material gain" (p. 3).

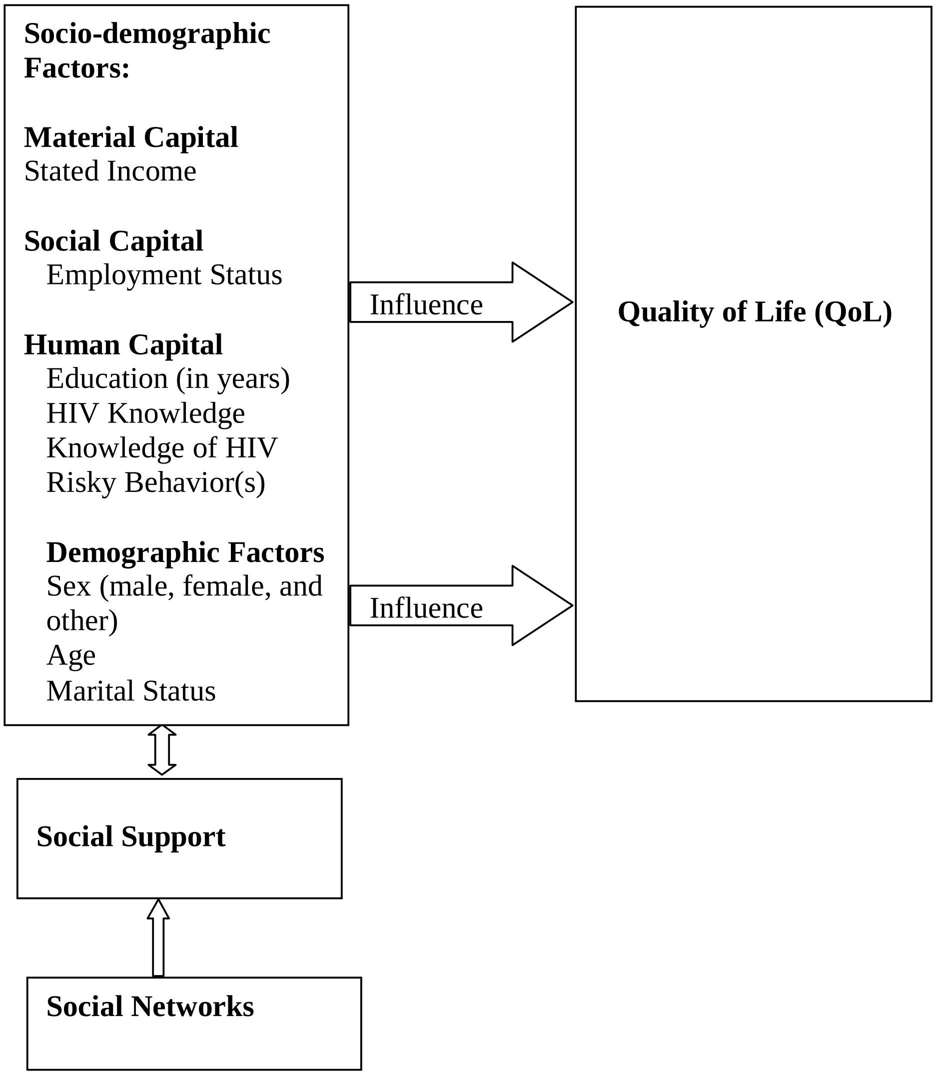


Figure 1: Model: Conceptualization of Socio-demographic Factors, Social Support, and Quality of Life (Adapted from Oakes & Rossi, 2003)

Social capital influences the level of social support an individual receives and also predicts the quality of life of the individual. In addition to predicting quality of life, there exists a reciprocal relationship between social support and social networks. Thus, one’s size and quality of social networks influences the amount of social support accessed by that individual. This study also theorizes that the combined effect of the socio-demographic factors and social support are predictive of quality of life.

The use of the social capital theory dates back to the work of sociologists such as Durkheim, Bourdieu, Coleman, and Marx, though Loury was one of first scholars who introduced the term social capital (Oakes & Rossi, 2003). For instance, Durkheim views “social group membership and networks as an antidote to anomie and self-destruction” (Oakes & Rossi, 2003, p. 777). In theory and practice, a person’s “relationship” with others places the individual in a better position to secure goods and services from them. These goods and services are the results of social capital (Oakes & Rossi, 2003). In the literature, these relationships are also known as social network, social support, group memberships, and the like. One would hypothesize that those who receive more social support as a result of their relationships with family, friends, and membership in groups are expected to report better quality of life than those who report little or no forms of perceived social support. It is likely that one cannot receive social support without having social network(s) in place and receiving assistance from these networks. In addition, communities with higher levels of social capital are more likely to foster social networks that provide social support to individuals who are part of the network.

Friedland, Renwick, and McColl (1996) made an important distinction between social relationships/networks and social support. These authors explained that social networks refer to a web of social relationships, and social support is the aid and assistance received through those relationships. Many social epidemiologists are now interested in social capital because of its potential to influence health outcomes in a variety of situations (Cobb, 1976, as cited in Friedland et al., 1996; Oakes & Rossi, 2003). Other social groups like self-help social support groups for PLWA enhance the establishment of social networks.

Self help groups, especially 12-step groups, enable their members to form social networks and receive social supports. In the 12-step groups, the more you go to the meeting, the more you gain from the meeting (Okundaye, Smith, & Lawrence-Webb, 2001). It is a natural support system that people can connect to. Self-help group membership can lead to social capital because the more you attend the meeting, the more networks you are able to build, and the chances of receiving social supports from these networks increase. In the current study, one would expect social support to have a significant relationship with quality of life. Thus, those who receive more social support as a result of their relationships with family, friends, and membership in groups are expected to report better quality of life than those who receive less/no form of social support. In this study, it is also expected that social support will differ by socio-demographic characteristics, such as being male or female, employed versus unemployed, and married versus unmarried.

Basic Assumptions of the Different Theoretical Views of Social Capital.

There are various conceptualizations of social capital by different authors. Muntaner, (2008, p. 38) holds the view that social capital, which includes “civic participation, trust in communities or good neighbourly relations are good for health.” This study focuses more on neighborly relations as a key determinant of health. Szreter and Woolcock (2003, p. 1) presented three perspectives of social capital; 1)

“A ‘social support’ perspective that argues that informal networks are central to objective and subjective welfare; 2) an ‘inequality’ thesis stressing that widening economic disparities have eroded citizens’ sense of social justice and inclusion, which in turn has led to heightened anxiety and compromised rising life expectancies; and 3) a ‘political economy’ approach that sees the primary determinant of poor health outcomes as the socially and politically mediated exclusion from material resources.” These are not so much definitions of social capital as positions that have been taken concerning the degree to which this concept can explain income inequality and population health differences. The later position, in particular, has developed as a broader critique of psychosocial etiology in general, specifically stress. To some extent this debate has been mitigated through the development of the SDH WHO model that merges both psychoscocial and neomaterial positions, in addition to social capital.

Thus, these three perspectives on social capital determine the quality of life of people living with chronic illnesses like HIV/AIDS. These perspectives are further viewed through the individual versus societal/political economy lenses. For example, is having social support and attaining equality in a more affluent society an individual’s responsibility or a function of the society? Similarly, is the political economy accountable for providing enough material resources for its citizens to ensure that they enjoy a better quality of life? The receipt of social capital is also defined in terms of the equal distribution of material resources and wealth in society as well as the psychosocial framework ideologies that influence health outcomes of a population.

This study proposes to measure an individual’s receipt of social support rather than measuring the government-provided material resources, which may be unequally distributed. Respondents in the study are members of various HIV/AIDS support groups and by virtue of their membership in the support groups, they will likely access/receive certain goods and services like subsidized co-payments for their medications, employment referrals, and HIV/AIDs education, among others by virtue of being members of these groups. Other assumptions of social capital may vary from the above-mentioned perspectives.

Social capital, according others, can have both positive and negative implications. For example, Portes asserted that networks among immigrants have contributed to the growth of the ethnic business industry in the USA (Muntaner, 2008, p. 38). Similarly, Woolcock believed that interaction among public, private, and legal systems in a civil society enhances economic development (Muntaner, 2008, p. 38). Muntaner et al. narrated that “tight friendship networks of peers can increase the risk of smoking, drinking, or use of illicit drugs, while in a different situation similar links may decrease the risk of suicide” (p. 36).

Similarly, Naperstek, Biegel, and Spiro (1982) contended that neighborhood residents depend on some informal neighborhood resources to cope with life crises. Thus, “a neighborhood contains ‘locality relevant’ institutions that connect the individual to the fabric of the society: church, school, community and civic associations, pharmacist, physician, small businesses, and more” (Naperstek, Biegel, & Spiro, p. 89).

Historical Development of the Theory of Social Capital.

The use of the concept of capital dates back to Marx’s conceptualization of capital in which he described capital as “part of surplus value captured by capitalist or the bourgeoisie, who control production means and distribution” (Lin, 1999, p. 28). According to Haralambos & Holborn (1991), conflict occurs as a result of the exploitative relationships between the bourgeoisies and the proletariat (manual working class) as hypothesized by Marxist conflict theorists. This interaction “creates a fundamental conflict of interest between social groups since one gains at the expense of another” (Haralambos & Holborn, p. 12). The basic premise of Karl Marx’s postulation was that workers in exchange for their labor get money (wage) to purchase goods and services needed to survive. On the other hand, the dominant class or the bourgeoisies who control the means of production capture the surplus value as profit. Lin (1999, p. 29) indicates that capital in a capitalist society as postulated by Marx represents two related but distinct elements. On one hand, “it is part of surplus value generated and pocketed by the capitalist,” and on the other hand, it represents an investment with and expected returns in the market place” (Lin, 1999, p. 29).

In 1954, Barnes explained the model of social relationships that were not necessarily a function of families or work groups (Barnes, 1954). In later years, Casel found that a relationship exists between social supports and health (Casel, 1976). Loury focused on the concept of social support in terms of racial income inequality and its policy implications (Portes, 1998). According to Portes, Loury argued that orthodox economic policies that focus solely on individual human capital and the creation of opportunities based on skills and ability were not enough to reduce barriers and economic inequalities. He further argued that minorities, by virtue of their inherited poverty, low skills, and limited social networks have access to limited socioeconomic opportunities. Using the literature on intergenerational mobility, Loury argued against individualistic approach to economic policy without advancing the concept of social capital any further (Portes, 1998).

However, the first contemporary analysis of social capital was introduced by Pierre Bourdieu (Portes, 1998). Bourdieu defined social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (Bourdieu 1985, p. 248). Portes further argued that Bourdieu's work, while the most theoretically refined and instrumentally conceptualized, received little attention in English literature because he published in French. Bourdieu's analysis of social capital focused on the benefits gained as a result of a membership in a group and further contended that "social networks are not a natural given and must be constructed through investment strategies oriented to the institutionalization of group relations, usable as a reliable source of other benefits" (Portes 1998, p. 3).

According to Muntaner, Lynch, and Smith (2008), the recent use of the theory of social capital began in the field of classical sociology and political science. The authors narrated that the use of this concept became more popular in the mid 1990s following the release of Robert Putnam's book "*Bowling alone: The collapse and revival of American community*" on the relationship between civic engagement and local governance(Muntaner et al., 2008). The authors further recounted that the concept has gained more popularity across many social science disciplines since Putnam's work.

Key Concepts.

The various leading scholars of this theory have conceptualized the theory of social capital differently. For example, social cohesion and social capital have been used interchangeably in the literature to connote the various forms of relationships between and among individuals, families, friendship networks, business, and communities (Kawachi & Kennedy, 1997). Specifically, the concept of social capital is discussed from three main schools of thought: Community health, social support, and those who believe that social capital and social cohesion mediate inequality and population health. In this paper, social capital is discussed from a public health point of view, specifically in the improvement of quality of life, leaning towards the assumption that having adequate social capital will result in improved health for individuals and groups who are closely related.

Various Constructs of Social Capital.

Bourdieu categorized neighborhood resources into four forms; social support, social leverage, informal social control, and neighborhood organization participation (Carpiano, 2008). According to Carpiano (2008), Bourdieu’s conceptualization of social support posits that this is a form of social capital that has a great influence on health, and residents depend upon it to cope with problems in daily life. The social leverage form of social capital serves as a source of information that helps residents to access information and other available resources that can affect health and wellbeing in the neighborhood. Regarding the informal social control form of social capital, residents maintain social order and neighborhood safety through collective action. Through the neighborhood organization participation form of social support, residents come together to collectively pursue neighborhood activities that improve health-related quality of life (Carpiano, 2008).

However, Coleman categorizes social capital into three forms, namely “norms, information channels, and collective obligations and expectations—that operate through, and are facilitated by, relational networks. Individuals within the structure of relations have the ability, by virtue of these connections, to achieve ends not otherwise possible” (Coleman 1988, as cited in Chaskin, Goerge, Skyles, & Guiltinan, 2006, p. 491). Coleman’s conceptualization of social capital lends credence to the proposition that one’s relationship or connections with certain networks or groups of people enable the individual to obtain certain goods and services that the person could otherwise not access without belonging to these networks.

Burt (2001) discusses social capital on the basis of the advantage that social capital gives to its actors. His explanation of social capital relates to the classic self-help philosophy. Thus, in self help groups, the more you put into a meeting, the more you get from a meeting (Okundaye, Smith, & Lawrence-Cobb). Burt explains that people who are better connected benefit greatly from those connections. Burt further detailed some of the specific network patterns which involve ways in which individuals and groups can participate in these networks. By virtue of belonging to these networks, individuals increase their advantage to accessing resources as a result of their relations within these networks and, especially, across “structural holes.” Structural holes are “the gaps between nonredundant contacts” that link individuals to those connected with networks other than their own; they provide additional access to information, resources, and opportunity (Burt 1992, as cited in Chaskin et al., 2006, p. 492). According to Chaskin et al. (pp. 491-492), Woolcock (1998) focuses on embedded relations (“integration”) and autonomous relations (“linkage”) at the micro level (social integration within and social ties beyond a community or group, respectively) and their counterparts (organizational integrity and synergy) at the macro level.

Putnam (1993, 2000) argued that social capital involves trust, norms, and networks and the role of civic engagement in facilitating collective action among community residents. Putnam’s conceptualization of the theory posits that the relationships among actors in a community foster trust and adherence to community norms. These norms and trusting relationships encourage civic participation and collective actions among the residents or the whole group/community.

The social capital and health literature focuses more on Putnam's conceptualization of social capital (Aguilar & Sen, 2009). In Putnam's view, social capital always yield positive results and this view further suggests that poverty reduction programs aimed at improving health should focus on increasing social capital (Putnam, 1996).

How Social Capital can be a Risk or Protective Factor for QoL.

Carpiano studied the social capital forms and health among a sample of adults in 2004 and 2007. The study produced mixed findings. For example, higher social support was positively related to daily smoking and binge drinking (Carpiano, 2004). However, Carpiano found that higher forms of social leverage and informal social control predicted lower daily smoking and binge drinking. Carpiano also concluded that social support can have both negative and positive consequences. To determine whether neighborhood attachment moderated the relationship between the forms of social capital and health outcomes, Carpiano's study found that informal social control predicted "health advantage" (p. 87) while neighborhood participation was related to a "health disadvantage" (p. 87). According to the group behavior literature, group behavior is characterized by factors such as group members' loyalty to group objectives through a hierarchical power and control, influence of financial incentives, and collective group cooperation to achieve agreed upon group goals (Heyer, Stewart, & Thorp, 1999). External norms also influence group behavior (de Renzio, 2000; Heyer, Stewart, & Thorp, 1999).

Risk Factors for QoL.

According to Fraser, Richman, Gallinsky, and Day (2009, p. 187), risk factors are "individual or environmental conditions that increase the likelihood for negative outcomes in particular population.” Thus, social capital can influence the conditions of actors in a particular network in a negative way.

Relating to Carpiano’s (2004) study, other studies have found that social capital increases suicide risk factors among First Nations youth in Canada (Kirmayer, Boothroyd, Laliberté, &Simpson, 1999; Mignone & O’Neil, 2005). These authors found that psychosocial, socio-economic, and cultural factors are responsible for suicidal thoughts among these youth. Similarly, Portes and Landolt (1996) asserted that social capital promotes inequality rather than the generalized view that it is inherently good. Owing to the negativity associated with social capital, the authors argued that “inner-city youth gangs are also social networks that provide access to resources and enforce conformity. The same kinds of ties that sometimes yield public goods also produce "public bads" such as mafia families, prostitution rings, and youth gangs, to cite a few. For a ghetto teenager, membership in a gang may be the only way to obtain self-respect and material goods” (Portes & Landolt, para. 15). Therefore, that in some circumstances social capital can be a good thing, and in other circumstances not such a good thing. It depends in part on the norms and values shared by the community or locale in which social capital exists. Bonding capital, using the authors’ terminology, can exacerbate conflicts between groups, and can lead to, for example, racist practices by whites against African Americans.

Social Capital as a Protective Factor for QoL.

Protective factors include greater caregiver connection, greater neighborhood and peer regulation which are associated with psychological well-being and better quality of life; number of people in a household; and belonging to a church and consequently receiving social support (Cluver & Gardner, 2007). According to Kirmayer et al. (1999), social capital serves as protective factors that decrease suicide among depressed First Nation adolescents. Thus, social capital helps the youth to cultivate a sense of admiration for life, develop self-esteem and coping skills, ethical hostility towards suicide, and a sense of feeling belonged to the community (Kirmayer et al.).

Relying on these available scant literature in identifying risk and protective factors is inappropriate. Therefore, this study proposes additional protective factors given this researcher’s knowledge of the cultural setting. These protective factors include perceived sense of family support, supportive family/network systems, resilience or positive coping in adversity, and spirituality (thus relying on one’s sacred relationship with God for better health conditions and longevity). The protective factors, which have the potential of improving quality of life, are expected to cushion and strengthen the debilitating impacts of the risk factors.

This study focuses on the protective factors of social support, given that the protective factors are more applicable in this setting.

Social Networks Theory

A social network refers to “a set of individuals who are either directly or indirectly connected” (Lin & Peek, 1999, p. 243). Lin and Peek concluded that social networks prescribe one’s incorporation into a community and their subsequent access to resources within this community. According to their conceptualization of social network, more intimate networks provide more social support for its members. Similarly, the University of Twente (2011) defined social networks as “the web of social relationships that surround individuals” (para. 1). According to Berkman and Glass (2000), social networks are responsible for providing social capital (resources) after people who were previously disconnected are brought together to form social networks. Upon forming these social networks, trust is developed, norms are adhered to, and people are able to form social networks from which social capital could be accessed (Cook, 2000). Given the forgoing argument, social network is a building block for social capital. Social capital can be received when these networks are available and yield their support.

Kawachi and Berkman, (2008) indicated that engagement in social networks tends to have direct positive effects on health outcomes regardless of the presence of other factors such as stress. Moreover, studies of both animals and humans have provided evidence that lends credence to the fact that the presence of significant other members of the same species influences the individual under some form of stress (Kaplan, Cassel, & Gore, 1977). For example, the effectiveness with which “electric shocks that can produce peptic ulcers are given to animals previously conditioned to avoid the ulcers is determined, to a large extent, by whether the animals are shocked in isolation (high ulcer rates) or in the presence of litter mates (low ulcer rates)” (Conger, Sawrey, & Turrel, 1958, as cited in Kaplan et al., 1977, p. 48). This study implied that being part of a network system provides opportunities for individuals to improve their quality of life.

The quality and the quantity of the networks are dependent on material, human and social capital of a person which are basically determined by socio-demographic factors such as one’s income, gender, education, employment, etc. It is important to acknowledge the impact of the hierarchies or differences in statuses and social classes of actors within a particular social network and how these differences determine the amount of capital one can receive. For example, an individual who has Bill Gates (one of world’s richest people) in their social network versus having ‘Joe Smith,’ an ordinary middle/low class person in their network, is expected to receive a disproportionately high social capital from Bill Gates than from ‘Joe Smith.’ Thus, the social class and affluence level of actors within one's networks play a major role in the quantity and quality of social capital one receives from these networks. It is hoped that the better the quality of the actors within the network, the better the chances of receiving more and quality social supports.

It is also worth noting that the Internet today has significantly challenged the trust and network formation and it will not be surprising upon discovery that the Facebook and other social network websites are means through which people form networks in both western and non-western societies. Anecdotal evidence shows that many people in non-western/developing countries like Ghana are signed up on social media websites like Facebook, Twitter, and Whatsapp. Though the literature on network formation via the Internet in Ghana was not found, an online survey analysis in the United States, United Kingdom, and Canada showed that increased Internet use correlated with increased social capital and a positive indirect effect (through social capital) on political participation among Internet users (Gibson, 2001).

Social Support Theory

The dimensions of social support that influence health outcomes are tangible (e.g., someone to assist you with daily activities like accompanying you to the doctor or help prepare your meals), affectionate (e.g., someone who shows you love), positive social interaction (e.g., someone to spend time with and engage in an enjoyable activity with) , and emotional/informational support (e.g., someone you can count on to listen to you when you need to talk/someone to give you information as needed (Sherbourne & Stewart, 1991). The network(s) of the actor helps the individual to secure social support, which further improves the person's quality of life. In this current study, it is expected that social networks will influence the social support received by an individual.

Prior research suggests that fewer networks or relationships and lack of adequate social support are negatively related to quality of life (Barnett & Gotlib, 1988). While social networks are the actors through and from whom we receive certain social and economic goods and services, social support is the physical, financial assistance, and emotional comfort given to us by our family, friends, co-workers and others with whom we are in a relationship with (Ashton et al., 2005; Barnett & Gotlib, 1988; Kaplan, Cassel, & Gore, 1977). The lack and ineffective use of social support increases the risk for experiencing poor quality of life among PLWA (Bloom & Mahal, 1997; Centers for Disease Control and Prevention, [CDC], 2009), resulting in more hospitalizations, and creating a substantial financial burden to the healthcare system and the human capital resource bank of a nations (Bloom, Urassa, Ng'weshemi, & Boerma, 2002). Failure to use social support has been linked with decreased quality of life for PLWA (Kawachi & Berkman, 2008; Gielen, McDonnell, Wu, O'Campo, & Faden, 2001; Woolcock & Narayan, 2000). Other studies suggested that social support makes multiple levels of positive impact on the quality of life of PLWA (Awusabo-Asare, 1995).

This theory is included in the model explaining relationships among the variables in this study because social networks are the actors through whom we receive social capital (which are the goods and services we receive by virtue of our membership in the social network). Therefore, social supports being the 'physical, financial assistance, and emotional comfort (goods and services) given to us by our family, friends, co-workers and others with whom we are in a relationship with is derived from social capital and through our network of relationships.

Another theory that Influence the Relationship between Social Support and QoL

Another theory that influences the relationship between social support and quality of life but is not relevant in this study is discussed below.

Empowerment Theory.

The theory of empowerment assumes that those who need certain resources will be equipped or given the power to identify and access available support systems to help them experience improved quality of life. The history and conceptualization of empowerment in social work dates back to the work of Barbara Solomon (Lee, 1997, p.19). Empowerment "refers to a process whereby persons who belong to a stigmatized social process category throughout their lives can be assisted to develop and increase skills in the exercise of interpersonal influence and the performance of valued social roles" (Solomon, 1976, p.6). According to Solomon (1976, p. 12) "anyone who is haunted by severe limitations of their self-determination and an inevitable sense of dependency" is powerless. Solomon contended that factors that block empowerment of persons include "compromised personal and interpersonal strengths and resources, economic insecurity, lack of training in critical thought, and lack of experience in the political arena" (Cox, 1987, as cited in Lee, 1997, p. 19). In the current literature, empowerment has been conceptualized as having different indicators, approaches, or themes. A study by an empowerment expert (Frans, 1993) identified five dimensions/themes of empowerment.

Frans (1993) argued that the empowerment concept applies to oppressed populations and professional social workers along the following themes: (1) A perception of positive and satisfying self-concept; (2) a critical awareness of one's position in the larger society or "macrostructures" (p. 315); (3)a "perception of possessing adequate knowledge and skills needed to influence events in one's own or others' lives" (p. 315); (4) tendency to act in a way that influences action on behalf of self or others; and (5) a sense of collective identity. In this study, the empowerment approach is relevant, thus, it is operationalized using the knowledge building dimensions outlined by Frans and Solomon (1976). However, this theory will not be included in the theoretical framework of the study because, the conceptualization of empowerment-operationally defined by Solomon, as "gaining power and freedom which comes through the acquisition of knowledge" (p. 6), and Frans's theme that adequate knowledge and skills are needed to influence events in one's own or others' lives- are insufficient for explaining how quality of life will be improved. Although it is expected that clients will gain knowledge of information about available resources and become empowered to use these resources to help them achieve better quality of life, the means through which these necessary resources will be acquired has not been properly outlined in this theory. For example, the theory only assumes that gaining knowledge and becoming empowered to use these resources will automatically improve quality of life. However, having access to these resources might be difficult without having some network of relationships which might improve the individual's chances of accessing these resources. Therefore, this theory does not adequately explain the paths/relationships between socio-demographic factors and social supports and their possibility of predicting the quality of life of PLWA.

Theoretical Model

According to Oakes and Rossi (2003), one's socio-economic characteristics such as income/asset, education, and employment status constitute the person's human, material, and social capital. The authors further implied that these three forms of capital prescribe an individual's Socio-Economic Status (SES). Other demographic factors such as age, sex, and knowledge of HIV or HIV-related risky behaviors are also examined in this study. Globally, the socio-economic and demographic factors constitute socio-demographic factors. In this study, it is conceptualized that variation in socio-demographic characteristics and social support will predict quality of life (see Figure 1for the conceptual model).

How this Model Explains the Relationship between Social Support and QoL

An understanding of the relationship between social support and QoL among PLWA is vital to determining appropriate interventions that would ensure better outcomes. The logic model (see Figure 1) suggests that socio-demographic factors and social support make up the person’s sources of capital such as material, human and social capital which in turn determines one’s QoL. For example, one’s socio-economic characteristics such as income/asset, education, and employment status constitute the person’s human, material, and social capital (Oakes & Rossi, 2003). It is therefore possible that social support will predict quality of life. It is also possible that one cannot receive social support without having social network(s) in place and receiving assistance from these networks. Therefore, quality of life of PLWA cannot improve without having adequate social support. Apparently, receiving HIV education and Anti-Retro Viral (ART) medications improves quality of life. The qualitative aspect of the interaction between and among patients and the health care providers also influence the quality of life of the PLWA. Thus, the networks formed among patients and the practitioners/health care staff and fellow patients, as well as the care the patients receive from the health care professionals relates to better quality of life.

The proposed logic model is supported by empirical evidence from many studies (See Bajunirwe et al., 2009; Burgoyne & Renwick, 2004; McInerney et al., 2008; Perez et al., 2005; Rao, Hahn, Cella, & Hernandez, 2007; Yen et al., 2004). Quality of life is also determined by one's socio-demographic status. For example, past literature suggested that younger people (Mavandadi, Zanjani, Ten Have, & Oslin, 2009), or women living with HIV/AIDS lack social support (Catalan et al., 1996), and reported low rates of quality of life (Mrus, Tsevat, Cohn, & Wu, 2005). Therefore, treatment/interventions may need to be targeted on these socio-demographic variables to improve quality of life for these people. When knowledge about the role of socio-demographic factors and understanding about the impacts of social support on quality of life is reached, interventions/treatments will be targeted toward the appropriate socio-demographic and social support variables in improving the quality of life of PLWA.

The Model

In this model (Figure 1), socio-demographic factors such as income, employment status, marital status, education, and sex constitute one's material, social, and human capital and demographic factors. The socio-demographic factors (the three forms of capital: material, human, and social as well as the demographic factors like age) and social support predict quality of life. A combination of these demographic factors and social supports received from one's family, friends, co-workers, acquaintances, neighborhoods/communities influence the quality of life of PLWA.

The model will enable the researcher to determine whether receipt of social support and one's quality of life will differ by sex (being male or female), stated income (whether one receives lower, middle, or upper income), etc. Thus, the model will specifically suggest the extent to which material, human, and social capital and demographic factors will determine quality of life among the population under study.

According to Oakes and Rossi (2003, p. 776), material capital include tangible wealth like “homes, cars, refrigerators, income, stocks, and flows, such as earnings, savings, investments and known expected wealth, such as inheritances.” Human capital on the other hand refers to “fixed endowments of an actor, such as being 6’9” and able to play point-guard, being handsome or beautiful, or having innate ability in mathematics or music. Human capital also includes education, skills, abilities, and knowledge one may acquire” (Oakes & Rossi, p. 776). Social capital includes goods and services that one receives from others as a result of one’s relationship with them (Oakes & Rossi).

Hypotheses and Research Questions

In this study, many questions that examine relationships between socio-demographic characteristics, social supports, and quality of life were examined. The research questions are:

1. Do social supports and quality of life among individuals diagnosed with HIV/AIDS differ by socio-demographic factors?
2. Is social support the same across socio-demographic factors?
3. Is quality of life the same across socio-demographic factors?
4. Is there an association between overall social support and quality of life?
5. Will socio-demographic factors moderate the relationship between social supports and quality of life?
6. What demographic factors and subdimensions of social supports contribute the most to quality of life among individuals diagnosed with HIV/AIDS?
7. Are both socio-demographic factors and social supports of individuals with HIV/AIDS associated with their quality of life?

Socio-demographic factors influence the level of social support an individual experiences and also predicts their quality of life. The level of social support received by an individual is dependent on the nature of the social networks they belong to. For this study, the following null hypotheses were tested:

1. There shall be no differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across socio-demographic factors (independent sample *t*-tests were used in testing this hypothesis).
2. There is no association between overall social support and quality of life (linear regression was used to test this hypothesis).
3. Socio-demographic factors will not moderate the relationship between social supports and quality of life (Multiple Regression analysis were used to test this hypothesis).
4. All demographic factors and subdimensions of social supports will contribute equally to quality of life among individuals diagnosed with HIV (Multiple Regression analysis were used to test this hypothesis).
5. There is no relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS (Multiple Regression analysis were used to test this hypothesis).

Hypotheses 2, 3, 4, and 5 were tested using linear and multiple regressions to identify the predictors of quality of life. The scores on the dependent variable, quality of life, as measured by the MOS-HIV scale were entered into the equation as one total score since multiple regression analysis needs one continuous variable.

Chapter 3

Research Design and Methods

Research Design

This study used a cross-sectional design survey with the aim of identifying whether there are differences in perceived social support and quality of life among males versus females, individuals diagnosed with HIV/AIDS who are married versus unmarried, up to 12 years of schooling versus 13 years or more of schooling, and employed versus unemployed, and whether socio-demographic characteristics and social supports of these individuals are associated with quality of life. Data were collected at one-point in time through the use of standardized instruments in the months of September and October 2013.

Population

This study was conducted at the Ghana Network of Persons Living with HIV/AIDS in Ghana (NAP+ Ghana, 2013).

NAP+ Ghana.

This organization serves PLWA in the greater Accra region of Ghana and also serves as the national headquarters of the networks in the entire country. NAP+ Ghana is a network of Persons Living with HIV/AIDS with 350 member associations representing over 270,000 persons living with HIV/AIDS in all the ten regions in Ghana (UNAIDS, 2011). The clients who present at this national headquarters to attend support group meetings, who were the respondents in the proposed study live in the Achimota, Accra metro area where the agency is located. The network was formed to provide the required structure and system for representing the views, hopes, and aspirations of PLWA across the country. The Network also aims to improve the quality of life of persons with HIV/AIDS through several strategies, including effective participation in national policy and program dialogue, effective advocacy, capacity building and strengthening, information sharing and working together with partners in a coordinated manner. Even though the names of the individual support groups (e.g., Global Disease Control, Goodwill AID Foundation, Young Women against Stigma Foundation, etc.) suggest that they were formed for specific historical and faith-based reasons, these specific reasons are undocumented (NAP+ Ghana, 2011) (see Appendix I for the full list of Support Groups at NAP+ Ghana, Achimota, Accra). The members of the network belong to the Christian, Islamic, West African Traditional, and the Baha'i faiths and therefore incorporate spiritual sessions into their meetings to help them meditate/reflect on "God" and how building a more intimate relationship with God positively influence their quality of life. The support group meetings usually begin with prayer and a Christian devotional session moderated by a support group leader or a staff member (personal communication with the agency Program Director, 2013). This researcher was unable to create a couple more variables in the analyses to control for differences between these support groups because data on descriptive information about the characteristics of these support groups were not available.

According to NAP+ Ghana (2013) the basis for forming the support groups are as follows: The support groups were formed as an association on the basis of having support to conduct their meetings and sharing experiences. The groups were formed to serve as unified bodies which update members on new trends in HIV/AIDS management. The support groups were also formed to help its members learn about the different ways in which they could improve their quality of life through attending workshops, advocacy, information sharing, leadership, capacity strengthening, and other relevant strategies. These potential paybacks encourage PLWA to join the support groups with the hope of reaping these benefits.

Furthermore, the support groups come together to deal with the complexity of issues working against PLWA in Ghana including stigma and discrimination, which have long limited group members' participation in meaningful activities. The support groups meet once every month on different scheduled dates but mostly from 7:00am to 1:00pm on weekdays. On the other hand, all the support groups in the Greater Accra Region meet every quarter to discuss the issues affecting the support groups in general and update the members on current issues. The support group members benefit from travel and transportation and snacks at meetings and also get the ARTs at participating health care facilitates at the cost of GH¢10.00 (Ghana cedis) per month (NAP+ Ghana, 2013).

The population of the support group members varies because there is a freedom of association with an average group size of 70 per group (NAP+ Ghana, 2013). NAP+ Ghana is registered as a company limited by guarantee under the Ghana Company's code of 1963 (NAP+ Ghana, 2013). The organization works with institutions such as Ghana AIDS Commission (GAC), Persons Living with HIV/AIDS (PLHIV) Associations, National AIDS Control Programme (NACP), United Nations Joint Programme on HIV/AIDS (UNAIDS), and Care International Prevention Project and Global Fund Round 8 Project with the Adventist Development and Relief (ADRA) agency. NAP+ Ghana serves as the national umbrella body to direct, coordinate and provide a common voice for PLWA in Ghana. A convenience sample of the NAP+ Ghana network members located in the Greater Accra region of Ghana only was surveyed. The president and the members of the NAP+ Ghana headquarters in Accra have granted this researcher permission to collect data from the network members. The members attend meetings at the headquarters and at the regional offices on regular basis and so data collection will be scheduled to take place while members are present for meetings-to help reduce respondents' burden of having to travel to the meeting site on their off days to participate in the study. Everyone one who presents at this office is assumed to be either a PLWA or an employee. Therefore, one's HIV status is not easily identifiable, and given that the agency has many employees, this researcher will not be identified as the PLWA survey researcher.

Eligibility Criteria

Regardless of their stage of HIV/AIDS (whether symptomatic or asymptomatic), all PLWA, who present at the center and are members of the support groups, and are 18 years or older are eligible to be included in the study. To attain a support group membership status, one must have tested positive for HIV/AIDS and have their status documented in their medical records (NAP+ Ghana, 2011). Therefore, any person who presented at the support group meetings at the NAP+ Ghana office was checked by the agency staff to determine if this requirement is met. Due to confidentiality issues, data were collected from respondents without necessarily identifying the specific support groups they belonged to (see Appendix I for the support groups within Achimota, Accra; who attend meetings at the agency during the months of September and October, 2013).

The sample was drawn through voluntary participation of the support group members. For the identity of the study participants to remain anonymous, no identifying information about the respondents was collected. During the analysis, how long they have been coming to the support groups meeting was analyzed because it is possible that length of group attendance could potentially change their attributes.

Moreover, completed questionnaires were marked ‘listened’ for those who received little assistance from the researcher in completing the questionnaire, even though the majority of the respondents completed their surveys with no assistance from the researcher.

Sample, Power Analysis, and Sampling Strategy

Prior to conducting the study, a power analysis was conducted to determine the recommended sample size for the study. Two approaches were used for the power analysis. The first approach relied on using the statistical package G* Power used to estimate the sample sizes for the analyses. This required setting the effect size, power level and alpha level, and computing the sample size needed for a multivariate analysis with 15 variables. Based on a medium effect size (.15), power (.80), and an alpha level set at .05, one hundred and thirty nine participants were required for these analyses. The second approach focused on following recommendations in the published literature. In this case, Stevens (2002) recommends 15 cases per IV for conducting hierarchical multiple regression, suggesting that a total of 225 participants (15 IVs) will be required for these analyses. While 225 cases was more than sufficient for these analyses data were collected from 300 participants to help increase the power level of the sample to help adjust for unexpected missing data. Study participants were notified about the research project by posting flyers at the NAP+ Ghana office where they attend support group meetings. The respondents were also informed by word of mouth by the agency representative to voluntarily meet the researcher in her designated office space within the agency to complete a survey.

Procedures

Participants completed self-administered surveys to respond to this study (see Appendix G). This researcher distributed the survey instruments on an hourly basis to the respondents individually as they consented to participation in the study after providing an explanation of the study (i.e., purpose, confidentiality, IRB approval, and information about compensation for respondents) (see Appendix F). To compensate them for their time and transportation from home to the research site (especially for some respondents who will not be presenting for support group meetings but to participate in the study), each participant was given GH ¢10 (US$5). For the total of 300 respondents, GH ¢3,000 cedis (about U. S. $1,500) was given as compensation to the respondents.

The researcher read and explained the purpose, confidentiality, IRB approval, and information about compensation for respondents from a prepared script (see Appendix F) to clients to ensure clarity for those who needed further assistance in completing the instrument accordingly. This act of avoiding the discussion of the questions with respondents is expected to help obtain more truthful responses from the participants (Dillman, Smith, & Christian, 2009). This action was particularly necessary in order not prime respondents into specific outcomes or in order not to encourage specific responses from respondents (Monette, Sullivan, & DeLong, 2011). Respondents that needed assistance in completing particular questions were helped accordingly.

Measurement

QoL.

The dependent variable (DV), overall QoL (total score), was measured using the Medical Outcomes Study HIV Health Survey (MOS-HIV)[3] scale (McDonnell et al., 1997; Smith, Feldman, Kelly, DeHovitz, Chirgwin, & Minkoff, 1996; Revicki, Wu & Brown, 1995; Wu et al., 1991; Wu, Revicki, & Malitz, 1997), which offers a

---

[3] See Appendix D for aspects of health that the scale measures.

total score and subscales score that were used as the main outcome variable total (representing a continuous level variable). The mean scores of both the overall QoL and its subscale scores were further estimated and used in the data analysis to ensure the representation of typical values for the scores on these variables/scales (Weinbach & Grinnelle, 2007). This scale is a brief, comprehensive health status measure that has been used extensively in studies of HIV/AIDS (Wu, Revicki, Jacobson, & Malitz, 1997). Wu developed this instrument in 1987, and it has remained one of the first disease-targeted measures available for this population and is widely used in clinical trials and other research and evaluation studies (MAPI Trust Research, 1996; Wu et al., 1997). According to Wu et al. (1997), the scale has moved through stages of adjustments and modifications. The current version of this instrument consists of 35 questions, which assess ten dimensions of health: general health perceptions, pain, physical functioning, role functioning, social functioning, mental health, energy/fatigue, cognitive function, health distress and QoL. One item assesses health transition, and the subscales of the MOS-HIV are scored as summated rating scales on a 0–100 scale where higher scores indicate better health. The concepts and number of items in the MOS-HIV are discussed in Wu et al., (1997) and MOS-HIV Health Survey Users Manual (n.d). Examples of questions in physical functioning subscale include: Does your health now limit you in these activities: walking uphill or climbing (a few flights of stairs), bending, lifting or stooping, walking one block, eating, dressing, bathing or using the toilet. Responses to these questions include: Yes, limited a lot (1); Yes, limited a little (2); and No (3). Examples of questions regarding quality of life include: How has the quality of your life been during the past 4 weeks? i.e., How have things been going for you? Responses to this question include: Very well: could hardly be better (1); Pretty good (2); Good and bad parts about equal (3);

Pretty bad (4); Very bad: could hardly be worse (5). Cronbach's alpha from studies that have used this scale range from 0.70 to 0.89 (Gielen, McDonnell, Wu, O'Campo, & Faden, 2001; Revicki, Wu, & Brown, 1995 as cited in Wu et al., 1997). The MOS-HIV also demonstrated concurrent validity with measures of health and discriminated between distinct groups (Wu et al., 1997). Data on the MOS-HIV were used as a continuous total score.

Social Support.

The variable, social support was measured using MOS Social Support Survey (19 items)[4] (Sherbourne & Stewart, 1991). Example of items in this scale include: "How often is someone available to listen to you when you needed to talk?" Responses range from 1 = none of the time to 5 = all of the time (higher score indicates more support). Cronbach's alpha from a study that has used this scale is 0.97 (Schwartz & Frohner, 2005). Using confirmatory factor analysis to confirm the factor structure of the MOS-SSS, this measure demonstrated concurrent validity (Gjesfjeld, Greeno, & Kim 2008). The data were used both as a continuous total score and also the subdimensions (tangible, affectionate, positive social interaction, and emotional/informational) of the measure were explored to determine whether a particular dimension contributed the most to QoL (see Table 3 for the scores of respondents on the QoL scale). In the literature, the MOS social support survey and the MOS HIV scales correlated in studies conducted in Canada (Burgoyne & Renwick, 2004), and South Africa (McInerney et al., 2008). These two scales are used in this current study to validate the relationship between these two tools, using a Ghanaian sample.

---

[4] This instrument will serve as independent variable in multiple regression analysis. The full scale is available at http://www.nationalmssociety.org/for-professionals/researchers/clinical-study-measures/msss/index.aspx.

Williams et al. (2004) reported internal consistency for tangible support (.91), emotion/information support (.96), affectionate support (.94), positive social interaction (.94), and total support (.93). They also found that the measure possesses good convergent and divergent validity, correlating strongly and positively with family and marital functioning, mental health, and social activity and negatively with loneliness and role limitations.

Sociodemographic Variables.

The socio-demographic characteristics selected were considered because of the role they play in HIV/AIDS issues. Information about sex was collected through a short answer questions “are you male or female: male (1), female (2)?” Marital status was also dichotomized into married versus unmarried[5] (single, divorced, or widowed) because such dichotomization reflects the cultural categorization of marital relationships in the community from which the data will be drawn. Years of schooling (education) was dichotomized by uneducated (0-12 years of schooling) and educated (13 years or more of schooling) because of limited variability in educational background of HIV/AIDS population in the community (NAP+ Ghana, 2010). Similarly, employment was dichotomized by “employed or unemployed” with response sets yes/no.

Other socio-demographic information collected and included in the regression analysis included age, (identify their age in years), income in numbers (in four categories which was later to be collapsed into low versus high income during the analysis but this dichotomization was not feasible because all respondents reported a monthly income of zero to less than 100 Ghana cedis), having children as well as the

---

[5] Although divorce is not a common phenomenon in the community from which data will be collected, those who are divorced or widowed are viewed as unmarried in the community. Similarly, the practice of cohabitation is culturally unrecognized or outlawed in the community.

time of their first diagnosis with HIV/AIDS identified in month and year to measure duration of HIV/AIDS (time since diagnosis).

Given that knowledge of HIV/AIDS and the knowledge of HIV risky behaviors influence the sexual behaviors and attitudes of both the educated and the uneducated (Cornelius, Okundaye, & Manning, 2000), these concepts will be measured using the knowing about HIV/AIDS assessment scale (Popham, Hall, Tonks, Hetrick, & Grossman, 1992) and 3 items from the knowledge of HIV risky behavior scale (National Center for Health Statistics, National Study of Family Growth, 1995) to statistically control for education on both social supports and QoL. The knowing about HIV/AIDS assessment scale (Popham et al.) is a 15-item scale that measures the participants' functional knowledge of HIV/AIDS. According to Popham et al. having functional knowledge (knowing about HIV/AIDS) helps to reduce the risk of HIV infection. Examples of items include "Hugging a person with AIDS is a way to get HIV" and "The virus that causes AIDS is found in blood." The response options range from "I am sure it's false" (1 point) to "I am sure it's true" (5 points). The knowledge of HIV risky behavior scale (National Center for Health Statistics, National Study of Family Growth, 1995) was used in a survey that focused on a subpopulation of African American females between the ages of 15-44, who were selected from households that had previously participated in the 1993 National Health Interview Survey. In general, the respondents were asked questions about the history regarding their pregnancy, past and current use of contraception, fertility issues, prenatal care issues, marriage/cohabitation status, and socio-demographic questions. The following three items were used:

1. "Please list the number of your lifetime sexual partners?"

2.“How often did you or your partner use condom for disease protection in the last 12 months?”

3. “What would you say are the chances that you have had sexual intercourse with someone who might be infected with HIV-the virus that causes AIDS?” For the first and second items, respondents’ were required to list the number of partners and the number of times their partners used condoms respectively. The third item had response options ranging from 1 (low), 2 (medium), and 3 (high). The psychometric properties of the knowing about HIV scale (Popham et al. 1992) and the knowledge of HIV risky behavior scale (National Center for Health Statistics, National Study of Family Growth, 1995) are unknown.

Use of the Instruments.

This researcher acquired the written permission of the authors of the instruments to culturally validate the instruments for use in Ghana. Upon pretesting both the adapted and the original tools on the respondents in Ghana, the respondents offered to be examined using the original English tools for the following reasons:

1. The readability level of the original tools was consistent with their readability statistics.
2. The concepts in the original tools are consistent with their cultural understanding of these concepts.
3. English is the official language in Ghana, and therefore all studies that they have been subjects of are conducted in English. Thus, they are only familiar with participating in research studies conducted in English.
4. They cannot read or write their responses in the local language-‘Twi.’
5. Feasibility of using the original instruments in a Ghanaian setting without threatening the psychometric properties of the tools was determined by

> examining the percent of missing item responses from the instruments (Mast et al. 2004). All the respondents answered all items in the original English version, but less than half of the respondents answered a few items in the adapted version. This researcher reported acceptability for the original instrument, and the time and ease of administration were also acceptable (Mast et al., 2004).

Therefore, this researcher has informed the authors regarding the use of their instruments in its original form instead of using the adapted versions (see Appendix G for the survey instrument). The survey was formatted using the recommendations of Adday and Cornelius (2006).

Prior to arriving at the above conclusion, the scales were culturally adapted to the population from which the data were to be collected and were field tested and psychometrically analyzed. First, items in the scales (MOS Modified Social Support Survey and MOS-HIV) were translated to Twi language by experts in linguistics of the local community. Another professional back translated the adapted version to English to determine if the concepts/wording are altered and to ensure that the items reflected the cultural understanding of the concepts and that the scales measured what they are intended to measure. This researcher, who is a native of this culture forward translated the instrument.

Second, the scales were piloted among respondents (50) who did not participate in the study and their responses helped to identify consistencies and inconsistencies that may help modify the scales. The researcher intended to conduct reliability and validity assessments to determine if a Cronbach’s alpha coefficient of .80 and above will be achieved to deem appropriate for measuring social support (MOS Modified Social Support Survey) and QoL (MOS-HIV) in the community.

However, the use of a culturally validated instrument was rejected by the respondents. Moreover, the cultural adaptation of a standardized instrument is beyond the scope of this study. Therefore, the original tools were used.

Data Analysis

Data from this study were analyzed to determine relationships and general findings from the study.

Data Entry and Data Management.

Data were entered by hand. In order to ensure quality control, data were cleaned after entry of every 10 completed surveys. All data were entered into SPSS (19.0) for data management, cleaning, and analyses by this researcher. Quality control measures included manual verification of the data that had been entered. Before running analyses, missing data were recoded to 99, and reverse coding was conducted as necessary for the QoL instrument, knowledge of HIV, and knowledge of risky sexual behaviors. In addition to recoding missing data to 99, mean substitutions of the scale scores were used as recommended by Leech, Barrett, and Morgan (2008). These authors suggested that if a participant has missing data for at least 1 item or more, the mean function in SPSS computes the mean score of the scale using data/responses from the items that had valid data to substitute for missing data from those who did not respond (see pp. 240-242). Given that 17 of the 18 items on the social support scale had valid responses, the formula used was “COMPUTE Mtotssosup=MEAN.17 (stalk,sinfo,sgdadvice,sconfide,rswantadv,sprivacy,suggest,sunderstand,sbedconf,sdoctor,smeal,schores,showlove,shug,sgodtime,srelax,senjoy,soffmind). There were no missing data for the other scales. Continuous variables were standardized into Z-scores and the dichotomous demographic variables were also dummy coded for use in assessing interactions between social supports and quality of life (Cohen, Cohen, West, & Aiken, 2003).

Analyses.

After entering and cleaning the data, descriptive statistics were conducted to first check the distribution of the data (De Vaus, 2002). Distribution of all variables was examined for skewness and kurtosis. Next, bivariate statistics (correlations) and multiple regression analyses with hierarchical entry were run to statistically analyze relationships between social supports and quality of life and socio-demographic factors, social support, and quality of life respectively. Independent sample *t*-tests were used in examining differences in social support and quality of life across socio-demographic factors.

A two-tailed alpha of 0.05 was used for the statistical tests in this study and the assumptions for *t*-tests and multiple regression were adequately met. In checking that the multiple regression assumptions were adequately met, the correct specification of the form of the relationship between IVs and the DV were checked and the analysis found a SPLOAM that represented blobs, and not u-shapes, indicating that this assumption is adequately met. Next, prior research and theory indicated correct specification of IVs in the model, and prior research also indicated chronbach's alpha of .8 and above for the social support, HIV knowledge, and HIV risky behaviors instruments suggesting that there was no measurement error in the IV. In addition, the homoscedasticity (constant variance) assumption were checked using the scatter plot of residuals, the order of cases collected against residuals indicated independence of residuals, and P-p plots were used to check the normality of residuals. A check for any multicolinearity among the variables was conducted by analyzing the SPSS output for correlations to determine if two or more predictors in the model were highly correlated. Correlations among predictors were below the .8. Thus, the models attained acceptable level of multicollinearity ($r \leq .5$) for predictors in the regression analyses.

Chapter 4

Results

This chapter presents the hypotheses tested in and the results from this study.

Hypotheses Testing

The following null hypotheses were tested:

1. There is no association between overall social support and quality of life (Pearson correlation and/multiple regression were used to test this hypothesis).
2. All demographic factors and subdimensions of social supports will contribute equally to quality of life among individuals diagnosed with HIV (Multiple Regression analysis was used to test this hypothesis).
3. Socio-demographic factors will not moderate the relationship between social supports and quality of life.
4. There is no relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS (Multiple Regression analysis was used to test this hypothesis).
5. There shall be no differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across socio-demographic factors (independent sample *t*-tests was used in testing this hypothesis).

Hypothesis 1 (H_{o1})

The null hypothesis that there shall be no differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across socio-demographic factors was tested. The analyses focused on several socio-demographic characteristics: sex (male versus female), marital status (married versus unmarried), years of schooling (0-12 years [uneducated] versus 13 years or more [educated]), and employment status (employed versus unemployed). The assumptions for conducting *t*-tests were adequately met. For this analysis, the dependent variables, social support and QoL were measured at a continuous level, whereas the independent variables (i.e., sex, marital status, education, and employment) were measured at the nominal level.

Hypothesis 2 (H_{o2})

The null hypothesis that "there is no association between overall social support and quality of life" was tested using linear regression.

Hypothesis 3 (H_{o3})

To test the null hypothesis that socio-demographic factors will not moderate the relationship between social supports and quality of life, multiple regression models included interaction terms for social support by socio-demographic factors (see Tables 7-21 for non significant interactions for demographic factors and Figures 2 and 3 for significant interactions only). Multiple models were generated for each demographic factor and social support and their interaction term, and the significance of the interaction was determined by analyzing the social support by the demographic variable interaction term. If the p-value for the interaction term was $\leq .05$, then the interaction was said to be significant. Significant main effects were also interpreted.

Hypothesis 4 (H_{o4})

The null hypothesis that all demographic factors and subdimensions of social supports will contribute equally to quality of life was examined using a regression model. The model summary and coefficients tables were analyzed to determine which predictor(s) contributed most to quality of life. Socio-demographic variables such as age, income[6], sex, marital status, having children, education, employment status, duration of HIV/AIDS (time since HIV diagnosis), and social supports were entered using a hierarchical strategy. These independent variables entered the analysis in order of

---

[6] Income was later removed from analyses because all respondents reported same level of income. Thus, there was no variation in the response for this particular variable.

causal priority (Norusis, 2002). Theory and past literature guided the entry of socio-demographic variables into the analysis, particularly because of their causal influence on the other variables. Independent variables such as age, sex, and marital status entered the analysis in step 1 following the order of entry in Gielen et al. (2001). Because having children often relates to marital status, having children and marital status entered the analysis in step 2. HIV knowledge, knowledge of HIV-related risky behavior, and how long they have been attending the support group meetings were entered in step 3, followed by years of schooling/education in step 4. Given that education often determines employability and income, particularly in a less developed country like Ghana, employment status and income entered in step 5; duration of HIV/AIDS (time since diagnosis), religion, and belonging to other networks entered in step 6; and, finally, overall social supports entered in step 7. For each step, a model summary was estimated by SPSS and indicated R^2 and adjusted R^2, which is indicative of the amount of variance accounted for by each variable or set of variables on a step, after controlling for the sets entered before each variable. This researcher considered examining the influence of quality of life on the predictors but given that theory and research do not suggest that quality of life influences socio-demographic factors and social supports, this relationship was not tested.

Hypothesis 5 (H_{o5})

Socio-demographic variables such as age, income, sex, marital status, having children, education, employment status, duration of HIV/AIDS (time since diagnosis), and social support were entered into the analysis hierarchically. These independent variables entered the analysis in order of causal priority (Norusis, 2002). Theory and past literature guided the entry of socio-demographic variables into the analysis, particularly because of their causal influence on the other variables. Independent variables such as age, sex, and marital status entered the analysis in step 1 following the order of entry in Gielen et al. (2001). Because the having children often relates to marital status, having children and marital status entered the analysis in step 2. HIV/AIDS knowledge/education as well as education (years of schooling) are analytically important in predicting quality of life. Therefore, HIV knowledge, knowledge of HIV-risky behaviors, and how long they have been attending the support group meetings entered step 3, followed by years of schooling/education in step 4. Given that education often determines employability, particularly in a less developed country like Ghana, employment status entered in step 5, duration of HIV/AIDS (time since diagnosis), religion, and belonging to other networks entered in step 6 and, finally, social support entered in step 7. For each step, a model summary was estimated by SPSS and indicated R^2 and R^2 change, which is indicative of the amount of variance accounted for by each variable or set of variables on a step, after controlling for the sets entered before each variable.

The results of the present study, including the results of the descriptive statistics, correlations, independent *t*-tests, and the multivariate analyses are included in this section. Data for all 300 (100%) respondents remained in the analyses. The demographic profile of the respondents is presented in Table 1.

Table 1: Demographic Factors of Respondents

Demographic Factor	N	%
Sex		
Male	69	23.0
Female	231	77.0
Belong to other Groups		
Yes	28	9.3
No	272	90.7
Education in Years		
0-12	291	97.0
≥13	9	3.0
Married		
Yes	152	50.7
No	148	49.3
Children		
Yes	242	80.7
No	58	19.3
Employment Status		
Employed	13	4.3
Unemployed	287	95

Table 1 (Continued)

Demographic Factor	N	%
HIV/AIDS Diagnosis Duration		
0-4 years	99	33.0
>4 years	201	67.0
Family Member Benefit		
Yes	300	100
Monthly Income		
GH ¢0-100.99	300	100
Religion		
Christian	280	93.3
Non Christian	20	6.7
Years of Group Attendance		
0-1year	37	12.3
≥1 year	263	87.7

Income did not vary (all respondents reported having about the same level of income).

The vast majority (97%) of the respondents reported having 0-12 years (none through high school). All of the 300 respondents reported monthly income of less than GH ¢100.99 (USD $46.33) and do have family members who benefit from the respondents’ membership and participation in the support group workshops and activities. This reported income is much lower than the $1310 gross GNP (see Appendix H). By estimation, the respondents also reported income of less than $2.50 per day implying that they are living in poverty (Global Issues, 2014). According to the Human Development Reports, Ghana, the only country in the West African region which has attained a medium development status compared to the US which is a very high development country (United Nations Development Programme [UNDP] Human Development Reports, 2014). According to this report, the mean years of schooling of adults in Ghana is 7 years, the gender inequality index is .065, life expectancy at birth as of 2013 was 64.6 years, and the estimated number of people living in multidimensional poverty is 31.2% while 28.6 of Ghanaians are living on less than $1.25 per day. These national human development indices reports on Ghana are comparable to the data gathered from the sample in this study.

Overall, the mean score for social support is 2.68 (*SD* = .49) and the mean of the overall quality of life is 2.20 (*SD* = .12). The following means (M) and standard deviation (SD) were computed for the subdimensions of the social support scale; emotional/informational support (*M* = 2.49, *SD* = .70); tangible support (*M* = 3.09, *SD* = .42); affectionate support (*M* = 2.66, *SD* = .65); and positive social interaction support (*M* = 2.64, *SD* = .61) (see Table 2).

Table 2: Social Support (Four Subdimensions and the Overall Social Supports Scale Scores)[7]

Social Supports	Minimum	Maximum	M	SD	Cronbach's alpha
Emotional/informational Support	1.00 (8)	3.63 (29)	2.49 (19.94)	.70 (5.59)	.93
Tangible Support	1.00(4)	4.00 (16)	3.09 (12.38)	.42 (1.39)	.94
Affectionate Support	1.00(3)	4.67 (14)	2.66 (7.99)	.65 (1.95)	.91
Positive Social Interaction Support	1.00(3)	3.67 (11)	2.64 (7.93)	.61 (1.83)	.53
Overall Social Support Scale (*M*)	1.00(18)	3.72 (67)	2.68 (48.22)	.49 (8.88)	.93

The means and standard deviations of the subdimensions of quality of life were: general health perception (*M* = 1.71, *SD* = .29); physical functioning (*M* = 2.32, *SD* = .12); role functioning (*M* = 1.74, *SD* = .27); social functioning (*M* = 2.33, *SD* = .79); cognitive functioning (*M* = 2.91, *SD* = .23); pain (*M* = 2.80, *SD* = .54); mental health (*M* = 2.12, *SD* = .32); energy/fatigue (*M* = 2.14, *SD* = .43); health distress (*M* = 2.37, *SD* = .25); and quality of life (*M* = 2.13, *SD* = .42) (see Table 3).

---

[7] The total raw scores (before the mean scores were estimated) are put in parenthesis. The mean scores were used in the analysis.

Table 3: Overall QoL and Subdimensions of the QoL Scale Scores)[8]

Quality of Life	Minimum	Maximum	M	SD	Cronbach-'s alpha
General Health Perception	1.20(6)	2.80(14)	1.71 (8.53)	.29 (1.47)	.18
Physical Functioning	1.33(8)	2.83(17)	2.32 (13.90)	.14(.83)	.51
Role functioning	1.00(2)	2.00(4)	1.74(3.48)	.27(.55)	-.071
Social functioning	1.00	5.00	2.33	.79	N/A[9]
Cognitive functioning	2.25(9)	5.50(22)	2.91(9.66)	.23(.94)	.83
Pain	1.50(3)	5.00(10)	2.80(5.60)	.54(1.09)	.56
Mental Health	1.60(8)	6.00(30)	2.12(10.58	.32(1.62)	.50
Energy/Fatigue	1.75(7)	4.50(18)	2.14(8.54)	.43(1.71)	.68
Health distress	2.00(8)	3.50(14)	2.37(9.64)	.25(1.01)	.64
General QoL	1.00	4.00	2.13	.42	N/A[10]
Overall QoL Scale (*M*)	2.06 (74)	2.69(97)	2.20 (79.23)	.12(4.19)	.46

The respondents who scored low on social supports reported lower scores on quality of life and those who scored higher on social supports also scored higher on quality of life. Results of the analyses conducted to address the null hypotheses in this study are as follows:

---

[8] The total raw scores (before the mean scores were estimated) are put in parenthesis. The mean scores were used in the analysis.

[9] The total raw scores and the cronbach's alpha for the social functioning subscale were not calculated because the subscale is constituted by only one item.

[10] The total raw scores and the cronbach's alpha for the general quality of life subscale were not calculated because the subscale is constituted by only one item.

Hypothesis 1 (Ho_1): There shall be no differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across socio-demographic factors

Independent samples *t*-tests were run to test for significant group differences to determine whether social supports and quality of life differ by sex (male versus female), marital status (married versus unmarried), years of schooling (0-12 years [uneducated] versus 13 years or more [educated]), and employment status (employed versus unemployed). The assumptions for conducting independent *t*-tests for the dependent variables (social support and quality of life) must be measured on a continuous scale; the dependent variables must be approximately normally distributed; the independent variables (e.g., male versus female and married versus unmarried) must consist of two categorical, independent groups; there must be independence of observations; there must be no significant outliers; and there must be equality/homogeneity of population variances) were adequately met. There were significant differences in social supports and quality of life across some demographic factors (sex, marital support, and education) (see Tables 4 and 5). Therefore, the null hypothesis was not supported.

Social Support across Demographic Factors.

Group mean scores on social supports were statistically different for sex, marital status, and education in years. The test was significant for sex t(102.25) = -18.65, mean difference of -.88, p < .0005). Thus, females reported less social support (M = 2.48, SD = .31) than their male counterparts (M = 3.36, SD = .35). Similarly, the test for the amount of social support received by those who are married versus unmarried was significant t(298) = -2.41, mean difference of. -.14, *p* = .016).

Table 4: *T*-tests Comparison of Social Supports across Demographic Factors (*N* =300)

Variable	*N*	*t*	*p*	M (M Difference)	SD	SE Diff for CI	95% CI
Sex		-.18.650	**.0005**	(-.88)		.047	-.977- -.789
Female	231			2.48	.31		
Male	69			3.36	.35		
Marital Status		-2.414	**.016**	(-.14)		.057	-.246- -.025
Unmarried	148			2.61	.50		
Married	152			2.75	.48		
Education in Years		3.971	**.002**	(.29)		.072	.128- .444
0-12 years (uneducated)	291			2.69	.50		
≥13 (educated)	9			2.40	.20		
Employment Status		.380	.704	(.05)		.140	-.222- .329
Unemployed	287			2.68	.50		
Employed	13			2.63	.46		

Note: Significant findings are in bold and the mean (M) and standard deviations (SD)

Table 5: *T*-tests Comparison of Quality of Life across Demographic Factors (*N* = 300)

Variable	*N*	*t*	*p*	M (Mean Diff)	SD	SE Diff for CI	95% CI
Sex		-.12.433	**.0005**	(-.17)		.014	-.199--.144
Female	231			2.16	.09		
Male	69			2.33	.10		
Marital Status		-1.561	.120	(-.02)		.013	-.047- -.005
Unmarried	148			2.61	.50		
Married	152			2.75	.48		
Education in Years		-.480	.631	(-.019)		.039	-.097-.059
0-12 years	291			2.200	.12		
≥13	9			2.219	.11		
Employment Status		.740	.460	(.02)		.033	-.041-.090
	287			2.20	.12		
Unemployed							
Employed	13			2.18	.13		

Note: Significant findings are in bold and the mean (M) and standard deviations (SD) of variables are included.

Unmarried individuals reported less social support (M = 2.61, SD = .50) than their married counterparts (M = 2.75, SD = .48). The results for differences in the group mean scores for years of schooling was significant but counter to prior research *t*(11.41) = 3.97, mean difference of .29, *p* = .002). Those who are educated (have acquired more than 13 years of schooling/more than high school education) received less social support (*M* = 2.40, *SD* = .20) than do those who are less educated (with 0-12 years in schooling/has up to high school education) *(M* = 2.69, *SD* = .50). The group difference in employment status (being employed versus unemployed) relating to the receipt of social support was not statistically significant (*p* > .05). The assumption that population variances are equal as indicated by Lavene's test was significant for both sex and education in years suggesting unequal variances. Therefore, the standard *t* values that do not assume unequal variances were reported (Green & Saltkind, 2008). All other assumptions of the *t* tests were adequately met.

Quality of Life across Demographic Factors.

The test was significant for sex *t*(98.14) = -12.43, mean difference of -.17, *p* < .0005). Thus, females reported poorer quality of life (*M* = 2.16, *SD* = .09) compared to their male counterparts (*M* = 2.33, *SD* = .10) (see Table 6). The results for marital status, education, and employment were not statistically significant (*p* > .05). This result indicates that reports of quality of life among married versus unmarried, educated versus uneducated, and employed versus unemployed were not different. Therefore, being married or not, educated or uneducated, employed or not did not yield significant differences in the quality of life of people living with HIV/AIDS. The assumption that population variances were equal as indicated by Lavene's test was significant for sex suggesting unequal variances. Therefore, the standard *t* values that do not assume equal variances were reported (Green & Saltkind, 2008). All other assumptions of the *t* tests were adequately met.

Hypothesis 2 (Ho_2): There is no association between overall social support and quality of life

This null hypothesis was not supported. Linear regression was run to examine the association between overall social support and overall quality of life (see Table 6).

Table 6: The Mean (*M*), Standard Deviation (*SD*), and the Summary of Linear Regression Analysis for Social Supports (SS) and its relationship between Quality of Life (QoL) (*N* = 300)

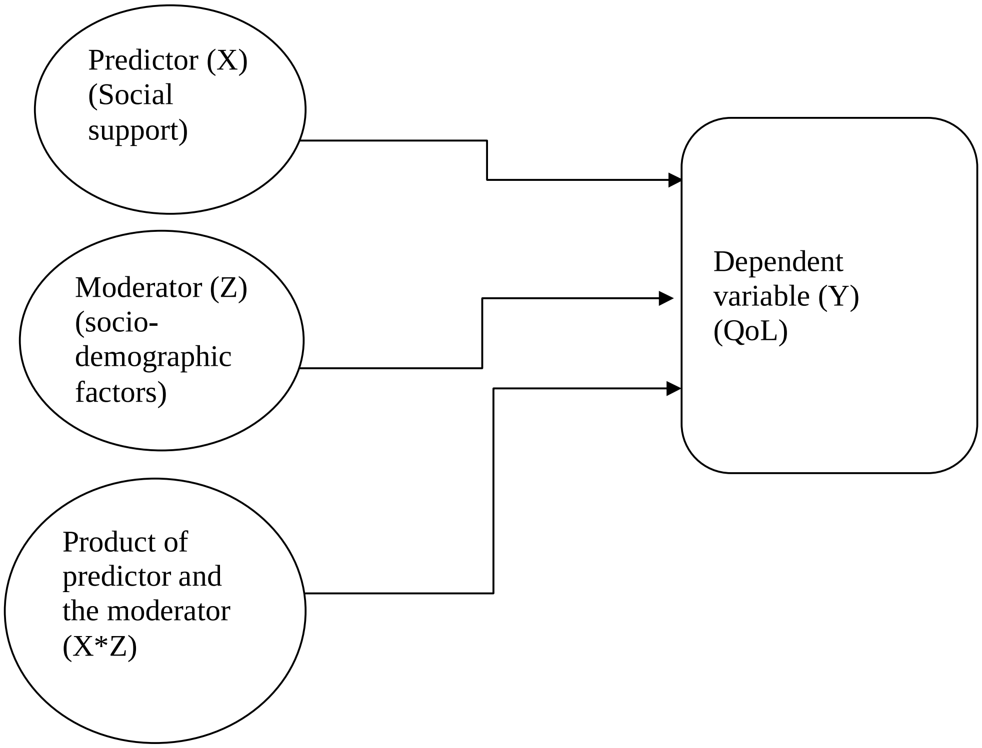
Variable/Predictors	β	R^2	t	*p*	M	SD	95% CI of B
Constant			58.66	.0005			1.813-1.939
Social Support	.514	.264	10.34	.0005	2.68	.49	.098-.144

The bivariate correlation between overall social support and overall quality of life was positive, similar to what was expected, based on the literature. A significant moderate correlation was found between overall social support and overall quality of life ($r = .5$, $p = .01$). Thus, as social supports increase or decrease, quality of life also increases or decreases respectively. The predictor in the regression analysis was overall social support while the criterion variable was overall quality of life. The mean score for social support was 2.68 ($SD = .49$) while the mean (2.20) and standard deviation (.12) were obtained for QoL. Overall social support significantly was associated with quality of life $F(1, 298) = 106.87$, $t = 10.34$, B = .12, $r = .51$, $p < .001$. The R^2 is .264, which means that social support explains a modest percent (26.4%) of the variance in the quality of life for these PLWA.

Hypothesis 3 (Ho_3): Socio-demographic factors will not moderate the relationship between social supports and quality of life

To determine if socio-demographic factors moderate the relationship between overall social support and quality of life, an interaction between social support and socio-demographic factors was tested (see Figure 2).

Figure 2: Conceptualization of the Interaction of Socio-demographic Factors by Social Support on QoL (Adapted from Baron and Kenny's [1986] Moderator Model)

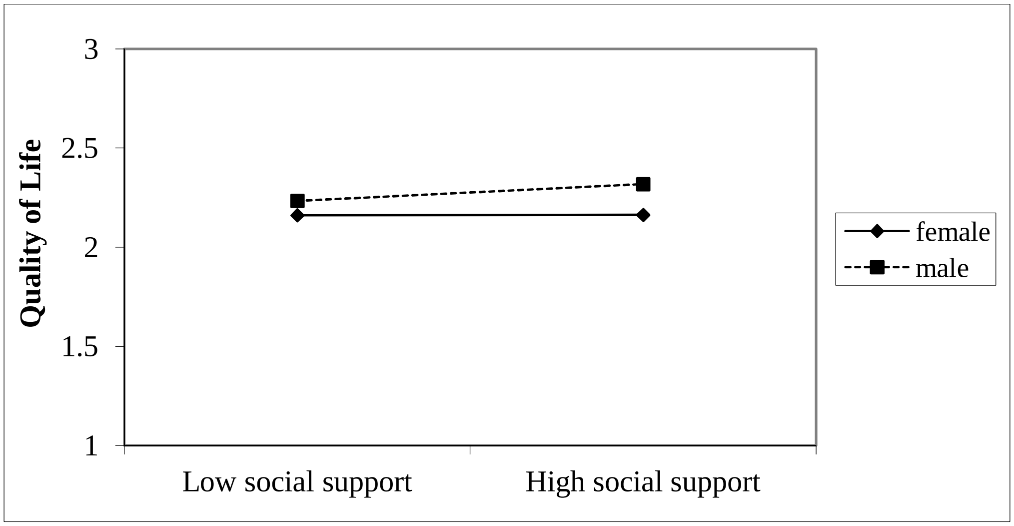


After standardizing the continuous predictors (overall social support and the moderators, age and duration of HIV diagnosis) and dummy coding the categorical demographic factors/moderators, there were no concerns about multicollinearity because all standardized betas for the continuous IVs (not including the interaction terms) are below .50.

Sex.

The final model for the social supports by sex interaction was significant *F*(3, 296) = 66.04, B = .04, *t* = 2.26, *p* = .024 and accounted for 40.10% of the variance in quality of life (adjusted R^2 = 39.50%, suggesting minimal shrinkage), after controlling for social support. Social support alone accounted for 26.1% of the variance in quality of life. Social support was shown to be more important for males than females in their assessment of their quality of life (see Figure 3).

Figure 3: Interaction of Male by Social Support on Quality of Life[11]



Thus, at both low and high social support, males reported higher quality of life than females[12]. The interaction term yielded the following means and standard deviations: social support (*M* = .00, *SD* = 1.00), Male (*M* = .23, *SD* = .42), and the interaction of social support by male (*M* = .32, *SD* = .67). The social support by sex interaction was still significant when marital status and having children were held constant [*F*(5, 294) = 40.34, B = .055, *t* = 2.50, *p* = .013 and accounted for 40.7% of

---

[11] Scores from low social support to high social support represent the respondents' scores on the scale from a range of low to high social support.

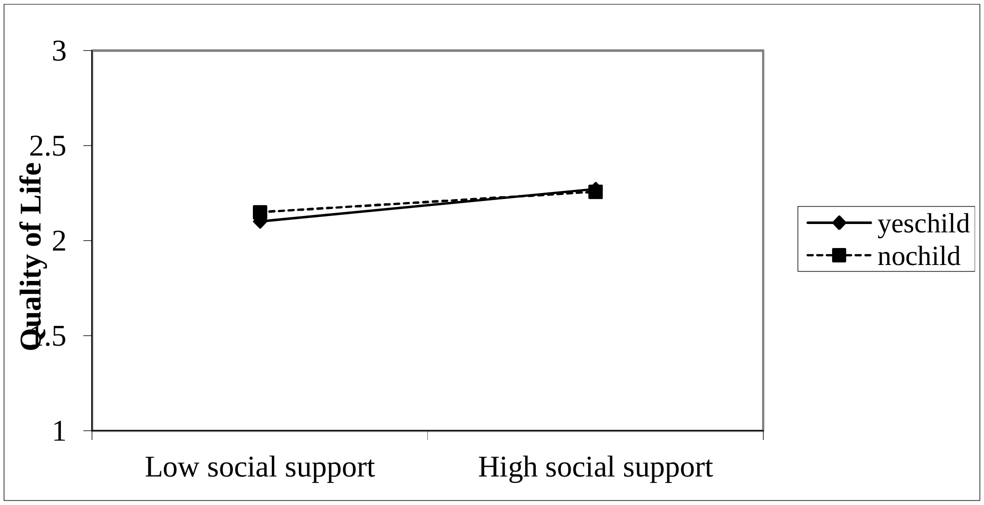
[12] Scores from low social support to high social support represent the respondents' scores on the scale from a range of low to high social support.

the variance in quality of life. The interaction term, after holding marital status and having children constant, yielded the following means and standard deviations: social support (*M* = .00, *SD* = 1.00), married (M = .51, SD =50), have children (*M* = .81, *SD* = .40), male (*M* = .23, *SD* = .42), and the interaction of social support by male (*M* = .32, *SD* = .67).

Having Children.

Similarly, the final model for the social supports by having children interaction was significant [*F*(1, 298) = 66.04, B = -.03, *t* = -.24 *p* < .028) and accounts for 27.80% of the variance in quality of life (adjusted R^2 = 27.10%, suggesting minimal shrinkage). For the social supports by having children interaction, those who have children reported lower quality of life than those who have no children at low social supports. However, at high social supports, both those with children and those who do not have children reported approximately the same quality of life, making the main effects of having children in this interaction uninterpretable (B = .06, *t* = 10.34, *p* < .0005) (see Figures 4).

Figure 4: Interaction of Have Children by Social Support on Quality of Life[13]



---

[13] Scores from low social support to high social support represent the respondents' scores on the scale from a range of low to high social support.

When sex and marital status were held constant, the social support by have children interaction disappeared (was non-significant) (B = -.02, *t* = -1.74, *p* = .083). Likewise, the interaction of group attendance (how long they have been attending support group meetings-year or less versus greater than one year) was not significant, but almost significant (*p* = 0.61). Likewise, the interactions for social support and quality of life by all the other moderators (marital status, age, years of schooling, employment, duration of first HIV/AIDS diagnosis, belonging to other support groups, and religion) were not significant (see Tables 7-21).

Overall, males reported higher quality of life than females. However, males, at low social support reported poorer quality of life while they reported higher quality of life at higher social support. For females, low or high social support did not necessarily relate to poorer or higher quality of life. Furthermore, those with children reported lower quality of life at low social support than those who do not have children. At high social supports, those who have children and those who do not have children reported about the same levels of quality of life.

Table 7: Schooling in Years (Education) as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	t	*p*	95% CI for B
Constant			375.821	.0005	2.188-2.211
Step 1		.264			.050-.073
Social Support	.525		10.528	.0005	
Step 2		.270			-.120-.116
Educated	-.002		.026	.979	
Step 3		.273			-.273-.074
Social Support by Educated Interaction	-.100		-1.129	**.260**	.050-.073

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 8: Employment as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	t	*p*	95% CI for B
Constant			371.840	.0005	2.190-2.213
Step 1		.264			
Social Support	.520		10.248	.0005	.049-.072
Step 2		.265			
Employed	-.035		-.704	.482	-.076-.036
Step 3		.266			
Social Support by Employed Interaction	-.035		-.684	**.495**	-.084-.041

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 9: Time Since Diagnosis of HIV/AIDS (HIV years) as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			380.590	.0005	2.190-2.212
Step 1		.264			
Social Support	.511		10.259	.0005	.048-.071
Step 2		.264			
HIV Years	-.020		.411	.681	-.009-.014
Step 3		.269			
Social Support by HIV Years Interaction	.071		1.426	**.155**	-.003-.021

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 10: Age as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			377.287	.0005	2.189-2.212
Step 1		.264			
QoL	.527		10.481	.0005	.050-.073
Step 2		.272			
Younger	-.089		-1.782	.076	-.022-.001
Step 3		.272			
QoL by Younger Interaction	.014		.288	**.773**	-.009-.013

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 11: Being Christian as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	t	*p*	95% CI for B
Constant			88.278	.0005	2.171-2.270
Step 1		.264			
Social Support	.674		3.998	.0005	.040-.117
Step 2		.269			
Christian	-.047		-.853	.395	-.073-.029
Step 3		.264			
Social Support by Christian Interaction	-.177		-1.065	**.288**	-.062-.019

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 12: Long Group Attendance as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			130.489	.0005	2.137-2.203
Step 1		.264			
Social Support	.322		2.710	.0007	.010-.065
Step 2		.278			
Long Attendance	.102		2.038	.042	.001-.071
Step 3		.286			
Social Support by Long Attendance Interaction	.222		1.879	**.061**	-.001-.059

Table 13: Attending Other Networks as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			362.043	.0005	2.190-2.214
Step 1		.264			
Social Support	.513		9.895	.0005	.048-.072
Step 2		.266			
Network	-.048		-.930	.353	-.059-.021
Step 3		.266			
Social Support by Network Interaction	-.011		-.207	**.836**	-.048-.039

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table1 14: Quality of Life by Marital Status Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			71.011	.0005	2.541-2.686
Step 1		.162			
QoL	.472		6.132	.0005	.158-.307
Step 2		.180			
Married	.132		2.511	.013	.028-.232
Step 3		.184			
QoL by Married Interaction	-.098		-1.268	**.206**	-.168-.036

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 15: Quality of Life by Having Children Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			46.546	**.0005**	2.617-2.848
Step 1		.162			
QoL	.717		5.893	**.0005**	.236-.472
Step 2		.159			
Have Children	-.052		-.991	.323	-.193-.064
Step 3		.187			
QoL by Have Children Interaction	-.348		-2.857	**.005**	-.321--.059

Note: Significant findings are in bold. Coefficients in the final model are reported.

Table 16: Quality of Life by Employment Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			100.300	.0005	2.627-2.733
Step 1		.162			
QoL	.414		7.661	.0005	.152-.257
Step 2		.157			
Employed	-.019		-.355	.723	-.302-.210
Step 3		.166			
QoL by Employed Interaction	-.063		-1.148	**.252**	-.452-.119

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 17: Quality of Life by Religion Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			26.876	.0005	2.636-2.740
Step 1		.162			
QoL	.489		3.309	.001	.151-.254
Step 2		.174			
Christian	-.097		-1.751	.081	-.586-.017
Step 3		.175			
QoL by Christian Interaction	-.106		-.725	**.469**	-.711-.236

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 18: Quality of Life by Group Attendance Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			37.114	.0005	2.728-3.034
Step 1		.162			
QoL	.642		3.164	.002	.120-.513
Step 2		.180			
Long Attendance	.151		-2.746	.006	-.388-.-064
Step 3		.175			
QoL by Long Attendance Interaction	.234		-1.157	**.248**	-.324-.084

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 19: Quality of Life by Attending Other Networks Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			97.580	.0005	2.630-2.738
Step 1		.162			
QoL	.402		7.300	.0005	.145-.252
Step 2		.163			
Network	-.035		-.617	.538	-.251-.131
Step 3		.163			
QoL by Network Interaction	-.010		-.175	**.862**	-.246-.206

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 20: Quality of Life by Age Interaction (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			104.099	.0005	2.628-2.730
Step 1		.162			
QoL	.412		7.816	.0005	.152-.254
Step 2		.180			
Younger	-.138		2.602	.010	-.017-.120
Step 3		.183			
QoL by Younger Interaction	.078		1.449	**.148**	-.012-.080

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Table 21: Time Since Diagnosis of HIV/AIDS (HIV years) as the Non-significant Moderator of the Relationship between Social Support and Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	95% CI for B
Constant			102.776	.0005	2.629-2.732
Step 1	.162				
Social Support	.408		7.681	.0005	.150-.253
Step 2	.163				
HIV Years	-.023		-.429	.668	-.063-.040
Step 3		.162			
Social Support by HIV Years Interaction	.088		1.653	**.099**	-.008-.097

Note: non-significant findings are in bold. Coefficients in the final model are reported.

Hypothesis 4 (Ho_4): All demographic factors and subdimensions of social supports will contribute equally to quality of life among individuals diagnosed with HIV

To determine which demographic factors or dimensions of social support contributed most to quality of life, hierarchical multiple regressions was computed.

The overall equation was significant; *F* (16, 283) = 15.35, *N* = 300, *p* < .0005. The R^2 change (.02) indicated that the R^2 increased by 2% when the entire set of predictors was entered in the final step. The F change (2.61) and the significant F change (*p* = .036) suggest that this change is significant. Thus, all the predictors combined accounted for 46.5% of the variance in quality of life (R^2 = .465, adjusted R^2 = .434). The adjusted R^2 (43.40%) is close to the R^2 (46.5%) suggesting little shrinkage and that the equation would cross-validate well but it is expected that the equation may be a little weaker if the study is repeated. Standardized betas among the IVs are low, below .8. Therefore, multicollinearity is not a problem. The following predictors significantly predicted quality of life: Age (B =-.002, t = -3.41, *p* = .001); sex (B = .174, *t* = 8.42, *p* < .0005); having children (B = .028, t = 2.05, *p* = .042); years of attending support group meetings (B = .043, t = 2.63, *p* = .009); and education in years (B = .064, *t* = 2.11, *p* = .035). For each additional increase in age, predicted quality of life decreased by -.002 controlling for all other variables. However, males reported an improved quality of life .174 points higher than females. Similarly, those who have children reported .028 quality of life better than those who do not have children, and those who have attended the support group meetings more than a year reported .043 points of quality of life higher than those who have been in attendance for less than a year controlling for all other variables.

Likewise, those who are educated (have 13 years or more of schooling) reported .064 quality of life higher than their uneducated counterparts (those with 0-12 years of schooling) controlling for all other variables. Overall, those who are younger, are males, have children, have attended the support groups longer than a year, and are educated reported higher quality of life. Sex (being male) contributed most to quality of life (B = .174, $p < .0005$). Given that sex (being male), contributed most to quality of life, the null hypothesis that all demographic factors and subdimensions of social supports will contribute equally to quality of life was rejected. The demographic factors and the subdimensions of social supports did not contribute equally to quality of life even though the entire group of predictors, when put together in a block, highly associated with quality of life $F(16, 283) = 15.35$, $p < .0005$, $N = 300$, adjusted $R^2 = .434$ (from .422 to .434). This difference of .012 in value suggests a small effect according to Cohen (1988). The beta weights presented in Table 22 indicate the contribution of the entire set of predictors to quality of life.

Table 22: Demographic Factors and Dimensions of Social Supports and their relationship with Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	t	*p*	95% CI for B
Constant			1.381	.168	-.799-4.559
Step 1					
Younger	-.162		-3.410	**.001**	-.003- -.001
Male	.631		8.417	**.0005**	.134-.215
Married	.038		.839	.402	.012-.029
Step 2					
Have Children	.095		2.047	**.042**	.001-.055
Step 3		.431			
HIV Knowledge	.006		.122	.903	-.563-.637
Knowledge of HIV Risky Behaviors	.047		1.036	.301	-.014-.045
Long Attendance	.122		2.631	**.009**	.011-.076
Step 4		.439			
Educated	.094		2.114	**.035**	.004-.124
Step 5		.441			
Employment Status	-.040		-.896	.371	-.074-.028

Note: Significant findings are in bold.

Table 22 (Continued)

Variable/Predictors	β	R^2	t	*p*	95% CI for B
Step 6		.445			
Years of HIV/AIDS Diagnosis	.015		.316	.753	-.006-.009
Christian	-.031		-.665	.507	-.057-.028
Belong to other Groups	-.043		-.981	.328	-.052-.017
Step 7		.465			
Emotional/informational SS	-.094		-.981	.242	-.042-.011
Tangible SS			1.328	.185	-.013-.068
Affectionate SS	-.015		-.127	.889	-.046-.040
Positive Social Interaction SS	.114		.940	.348	-.024-.068

Note: Significant findings are in bold. Coefficients in the final model are reported. Income was excluded from analysis because it did not vary (all respondents reported having about the same level of income).

Hypothesis 5 (Ho_5): There is no relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS

The regression equation with the set of predictors in relation to the outcome variable, quality of life, is significant with an $F(13, 286) = 18.06$, $N = 300$, $p < .0005$. Therefore, the null hypothesis that ‘there is no relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS’ was rejected. Means and standard deviations as well as the results of the analysis are presented in Table 23. Correlations among the predictors are all low, below.5, with the exception of sex and overall social support (*r* =.755). The set of predictors accounted for 41.5% of the variance in quality of life. The shrunken R squared value is 42.60%, which suggests little shrinkage. If we cross validate we will expect the equation to be a little weaker if we repeated the study. A number of demographic factors were significant [age (B = -.002, t = -3.59, $p = < .0005$); sex (B = .154, t = 8.15, $p = < .0005$); years of attendance (B = .043, t = 2.64, $p = .009$); years of schooling (B = .070, t = 2.29, $p = .023$). Thus, for each additional increase in age, the respondents reported about .002 decrease in their quality of life, controlling for all other variables in the model. Males reported about .154 higher quality of life than their female counterparts after controlling for all other variables. Those who had attended the support group meetings longer than a year scored .043 higher on quality of life than group members who have recently joined the support group (for less than one year) after accounting for all other variables in the model. The educated group (has acquired 13 years or more of schooling) reported having .070 points more of quality of life than those with 0-12 years of schooling. Overall social support was not statistically significant (though almost significant, $p = .081$).

Table 23: Demographic Factors and Overall Social Supports as and their relationship with of Quality of Life (*N* = 300)

Variable/Predictors	β	R^2	*t*	*p*	M	SD	95% CI of B
Constant			.838	.403			-.799-4.559
Step 1		.406					
Younger	.171		3.586	**.0005**	36.78	10.64	-.003--.001
Male	.558		8.150	**.0005**			.117-.192
Married	.035		.779	.437			.012-.029
Step 2		.413					
Have Children	.084		1.816	.070			-.002-.052
Step 3		.431					
HIV Knowledge	.033		.729	.727	4.47	.02	-.367-.798
Knowledge of HIV Risky Behaviors	.059		1.320	.188	1.79	.35	-.010-.049
Long Group Attendance	.122		2.636	**.009**			.011-.076
Step 4		.439					
Educated	.103		2.288	**.023**			.010-.130
Step 5		.441					
Employed	-.041		-.918	.360			-.074-.027

Note: Significant findings are in bold. Coefficients in the final model are reported. Income was excluded from analysis because it did not vary (all respondents reported having about the same level of income).

Table 23 (continued)

Variable/Predictors	β	R^2	*t*	*p*	M	SD	95% CI of B
Step 6		.445					
HIV/AIDS Diagnosis Duration	.023		.486	.627	4.09	1.41	-.006-.010
Religion	-.044		-.970	.333			-.063-.021
Belong to other Groups	-.040		-.897	.370			-.051-.019
Step 7		.451					
Overall Social Support	.119		1.750	.081	2.68	.49	-.004-.060

Note: Significant findings are in bold. Coefficients in the final model are reported. Income was excluded from analysis because it did not vary (all respondents reported having about the same level of income).

Overall, being younger and male and attending the support group meetings for longer than a year as well as having acquired 13 years of schooling or more were related to improved quality of life. Marital status, having children, knowledge of HIV, knowledge of HIV risky behaviors, employment status, duration of HIV/AIDS diagnosis, religion, belonging to other networks, and social supports did not relate to quality of life. The combination of social supports and demographic factors influences the quality of life of people living with HIV/AIDS. However, some of these demographic factors (age, sex, years of attendance, and years of schooling) individually related with quality of life while the other predictors (marital status, having children, knowledge of HIV, knowledge of HIV risky behaviors, employment status, duration of HIV/AIDS diagnosis, religion, belonging to other networks, and social supports) did not relate to quality of life individually.

Outcomes of this Research and Significance

This study produced findings that shed light on differences in social support and quality of life across sex, marital, educational, and employment statuses among those diagnosed with HIV/AIDS in developing countries. For example, it was found that women lack strong social support to cope with HIV/AIDS diagnosis and those who are married and educated are more likely to report a higher rate of social supports. In addition, the study shed light on the association between sex, marriage, education, employment, social support as well as having children and quality of life among these individuals. Knowledge and understanding generated from such findings may, therefore, provide direction for formulation of policy and influence practice to further help improve the lives of those infected with HIV/AIDS in Ghana. For example, findings may provide information about how to expand social network to maximize social support and improve QoL for those diagnosed with HIV/AIDS in Ghana.

Human Subject Protection (Ethical Issues)

The study did not seek written consent of participants. Some important ethical concerns could be raised if consent were required for this study. It is possible that irrespective of informing the respondents of their rights to refuse to participate in any part of the survey, as well as the plans to assure confidentiality in how the data is collected, analyzed and reported, some study participants may still feel there is a risk of being identified as being HIV positive by merely signing a consent form to participate in the study. This is a real issue, as many persons living with HIV/AIDS encounter stigma and discrimination from their spouses, families and communities and may choose not to disclose their status to others. As such, they may rightly feel that the signing of the consent form may lead to a risk that others may learn about them. Thus, if a signed consent form was required for this study, it is quite possible some may simply choose not to participate in the study. Therefore, the UMB's IRB approved a Consent Waiver for this study. Without receiving a consent waiver, it may be possible that the findings of the study may be biased due to self selection. In this case only a subset of those who are eligible to participate and were comfortable with signing a consent form would have been included in the study.

Possible risks and benefits of participating in the study were explained to respondents. The respondents were assured of confidentiality and the safety of their information. Thus, results from the study are released only as summaries so that their individual responses cannot be identified and their names will never be connected to their completed questionnaires in any way. Possible benefits of the study include the fact that results from the survey will be used by researchers, practitioners, and policy makers to help conduct further research on this topic, to encourage the use of appropriate social support interventions/practices among social work practitioners serving the HIV/AIDS community, and to help shape and influence policies that will positively impact the quality of life of PLWA.

Participants were reminded that participation is voluntary and their agreement or refusal to participate was not contingent upon their receiving services at the agency. That is, their services at the NAP+ Ghana will in no way be affected if they agreed or refused to participate in the study. To protect respondents' privacy and confidentiality, no identifying information will be collected from participants and participants will be assured that their responses will be kept confidential and no responses in the study will be linked to them. To increase their privacy especially during the survey data collection, the researcher did not walk around the room while they completed their surveys; asked if they had any questions about how to complete the survey and answered these questions, then had the respondents complete the surveys; and directed clients to place their completed surveys in a large manila envelope after the researcher had checked the survey for completion.

Given that both staff and PLWA presented at the study site for various reasons, and the office is a gated building, people within the community will not be able to identify this researcher as an HIV researcher.

Finally, it is expected that the questions in the survey posed minimum burden to respondents, because questions in MOS Modified Social Support Survey and the MOS-HIV are few. Considering the level of education of the respondents and because arrangements were made to provide help for those who needed assistance in completing the questionnaires, the questionnaires were completed in in a timely fashion. As mentioned earlier, socio-demographic information were gathered through short answer questions. The next chapter provides the discussion and implications of these findings

Chapter 5

Discussion

In this chapter, the summary of findings, the similarities and differences between these findings and prior literature, and the implications of the findings for social work practice, policy, and research, will be discussed. The chapter will also discuss the strengths and limitations of the study and conclude with a brief inference drawn from the overall findings of the study.

Summary of Findings from this Study

This study examined whether socio-demographic factors and social supports influenced the quality of life of people living with HIV/AIDS. The study also examined whether the receipt of social supports and the report of quality of life would differ across socio-demographic factors such as sex, marital status, education, and employment status. The following null hypotheses were tested: There is no association between overall social support and quality of life; all demographic factors and subdimensions of social supports will contribute equally to the quality of life among individuals diagnosed with HIV; socio-demographic factors will not moderate the relationship between social supports and quality of life; there is no relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS; and there shall be no differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across socio-demographic factors. These null hypotheses were not supported. Thus, there is a significant relationship between social support and quality of life, all demographic factors and subdimensions of social supports did not contribute equally to the quality of life among individuals diagnosed with HIV; some socio-demographic factors (sex and having children) significantly moderate the relationship between social supports and quality of life; there was a significant relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS; and there were significant differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across some socio-demographic factors (sex, marital status, and schooling in years).

Similarities and Differences between Findings and Prior Literature

The findings from this study were analyzed in comparison to the evidence in the literature to determine consistencies and inconsistencies.

Hypothesis 1 (Ho_1): There shall be no differences in social supports and quality of life among individuals diagnosed with HIV/AIDS across socio-demographic factors.

This null hypothesis was rejected because social supports differed across sex, marital status, and education while quality of life differed with sex only. Thus, females received less social supports compared to their male counterparts, unmarried couples received less social supports compared to those who are married, and those with fewer years of education reported receiving more social supports than those who were more educated than them. In terms of reports on quality of life, men reported better quality of life than women.

Socio-demographic Factors and Social Supports.

Compared to findings from other studies (Kohli, Sane, Kumar, Paranjape, & Mehendale, 2005; Solomon et al., 2008) the difference in group mean scores for social supports for males and females in this study was relatively low. This finding is contrary to the expectation that men would receive greater levels of social support than women given the underlying cultural dynamics of this setting. This difference in the receipt of social support for males and females in this study was probably less because in this current study, people living with HIV/AIDS are discriminated against regardless of their sex. Perhaps, other factors like income, family background/dynamics, etc. moderate(s) sex and the receipt of social support and so the moderation effect of these other socio-demographic factors need to be investigated to determine their contribution in influencing the relationship between sex and social supports. Schooling in years and marital status also differed significantly to the receipt of social support.

Past literature indicated that those who are more educated reported better quality of life than those who are less educated (Gyamfi et al., 2009) and in general, more education translates into better social economic status in most societies (Sun et al., 2013) including this research setting. However, in this current study, those who are more educated received less social support compared to their uneducated counterparts. It is possible that the high nature of discrimination and lack of resources for HIV treatment in general in this setting has limited the ability of even educated persons living with HIV/AIDS in accessing treatment for HIV/AIDS, causing them to report less social supports. It is anticipated that the highly educated will report more social supports than the less educated in this setting. Therefore, their reports of lower social supports could also be due to their disappointment in the perceived predicament created for people living with HIV/AIDS by society. In addition, their unmet expectations from the family, the community, and the government in the areas of health, social, emotional, physical, and mental health needs might have conflated their assessment of their received social supports than those who are less educated. However, anecdotal evidence from the respondents indicated that unless one is highly educated, has acquired higher university degree(s), and was financially affluent/stable and already engaged in a gainful employment before their first HIV/AIDS diagnosis, it is difficult to maintain a good quality of life. Discrimination against the PLWA seemed to be high in their own viewpoints, and this could result into losing one's gainful employment, loyal acquaintances/friends, and personal integrity, among others, regardless of a PLWA's level of education. Despite all the plausible reasons that could affect the quality of life of people who are educated, it is still unclear why they reported less social supports compared to their uneducated counterparts. Further research needs to be conducted to find out why the less educated reported more social supports than their educated counterparts in this setting where level of education is positively correlated with income and income greatly determines one's access to resources (social supports).

Regarding marital status, the married individuals reported more social supports than their unmarried counterparts. This finding is inconsistent with the literature (Li et al., 2010). Li et al found the reverse-that the unmarried people reported the receipt of more social support than those who are married. It is possible that the difference in the settings and the fact that marital status in both settings does not necessarily guarantee more social support might have resulted in the inconsistency in findings.

Other demographic factors also yielded inconsistent findings regarding social support and quality of life. Both social supports and quality of life did not differ on employment status in this current study although these constructs differed significantly on employment status in past studies (Rueda, 2011; Rüütel, Pisarev, Loit, & Uusküla, 2009). Further studies need to be conducted to examine whether social supports will differ across employment status, age, having children, time since HIV diagnosis, how long one has been attending support group meetings, religion, and belonging to other networks. These socio-demographic factors did not differ significantly on social supports and quality of life in this current study although some of them differed significantly in other studies. Thus, age, religion, and time since diagnosis differed significantly on quality of life and having children influenced the acquisition of more social support.

Socio-demographic Factors and Quality of Life.

Another consistent result with prior literature was found regarding the quality of life and sex. Women consistently reported lower quality of life compared to men (Abasiubong, Ekott, Bassey, Etukumana, & Edyang-Ekpa, 2010;Cederfjäll et al., 2001; Mrus, Tsevat, Cohn, & Wu, 2005; Skevington, Norweg, & Standage, 2010; Subramanian, Gupte, Dorairaj, Periannan, & Mathai, 2009). Similar to findings from this current study, women reported lower quality of life compared to men. It is therefore necessary to determine ways to equalize the receipt of social support for both men and women living with HIV/AIDS. The reports of quality of life among married versus unmarried, educated versus uneducated, and employed versus unemployed were not significant. This finding suggest that been married or not, being highly educated or less educated, and being employed versus unemployed do not make a difference in the report of quality of life of people living with HIV/AIDS in this study setting. In other studies however, employment (Atkins et al., 2010; Rueda, 2011; Rüütel, Pisarev, Loit, & Uusküla, 2009), education (Atkins et al., 2010; Coombe and Kelly, 2001), and marital status (Li et al., 2010) significantly affected the quality of life of PLWA.

Hypothesis 2 (Ho_2): There is no association between overall social support and quality of life.

To reiterate, the syntheses of the literature supported a significant positive relationship between social support and quality of life. Therefore, the null hypothesis that there will be no relationship between overall social support and quality of life is rejected. Consistent with prior literature (Abboud, Noureddine, Huijer, DeJong, & Mokhbat, 2010; Diamond et al., 2010; Douiahy & Singh, 2001; Hansen, Vaughan, Cavanaugh, Connell, & Sikkema, 2009; Sun et al., 2013), this current study found a significant relationship between social support and quality of life. Thus, a significant positive relationship was found between social support and quality of life in this study. The amount of social supports received determines the quality of life of people living with HIV/AIDS. Similar to the findings in this study, the reports of social support among PLWA in developing countries are lower (Louwagie et al., 2007). Past studies also indicate that quality of life among PLWA in developing countries are usually lower (Buseh, Kelber, Stevens, & Park, 2008; Diamond, Taylor, & Anton-Culver, 2010; Eriksson, Nordstrom, Berglund, & Sandstrom, 2000; Fan, Kuo, Kao, Morisky, & Chen, 2011; Perez et al., 2009; Ryu, West, & Sousa, 2009; Tsevat et al., 2009). These findings on social supports and quality of life in developing countries are consistent with results from this study.

Hypothesis 3 (Ho_3): Socio-demographic factors will not moderate the relationship between social supports and quality of life.

This null hypothesis tested the moderation/interaction effects of socio-demographic factors on the relationship between social supports and quality of life. In the prior literature, age moderated symptoms of HIV/AIDS and quality of life (Ryu et al.,

2009) but in this current study, sex and having children moderated the relationship between social support and quality of life. Therefore the null hypothesis that socio-demographic factors will not moderate the relationship between social supports and quality of life was rejected. Although males reported poorer quality of life at low social supports and a higher quality of life at higher social supports, and females on the other hand reported almost the same level of quality of life at both low and high social support, males reported better quality of life overall. This finding is consistent with literature (Abasiubong, Ekott, Bassey, Etukumana, & Edyang-Ekpa, 2010; Mrus, Tsevat, Cohn, & Wu, 2005; Skevington, Norweg, & Standage, 2010; Sowell, Seals, Moneyham, Demi, Cohen, & Brake, 1997; Subramanian, Gupte, Dorairaj, Periannan, & Mathai, 2009). This finding also suggests that regardless of study setting, males generally report higher quality of life compared to their female counterparts. Perhaps, higher reports of quality of life are popular among males because they tend to receive higher rates of social supports (Kohli, Sane, Kumar, Paranjape, & Mehendale, 2005; Solomon et al., 2008). However, anecdotal evidence indicates that males tend to avoid support groups. Further qualitative studies are needed to investigate why men tend to avoid support groups; how men can be challenged to engage more in support groups, why women receive less social supports; and how women’s access to social supports systems can be improved. Moreover, intervention studies focusing on improving social supports in general and specifically tailored to improving women’s access to social supports are needed to help improve the quality of life of women as well. To determine if sex will moderate the relationship between social support and quality of life, marital status and having children were held constant (controlled for) and the relationship remained significant. This result further suggests that sex (being male or female) combined (interacting) with the amount of social support received is strongly associated with the quality of life. However, when sex and marital status were statistically controlled for, whether or not one has a child combined with the social support they receive (having children by social support interaction) was not significant. It is possible that those who have children do not necessarily increase their potential for receiving more social support than their counterparts who have no children. Therefore, the report of a person living with HIV/AIDS may not change regardless of whether or not they have children. Perhaps, factors like the number of children one has, age of the children (whether they are considered to be minors or adults and how much supervision, attention, and amount of care they need), functioning level (whether children have physical, psychological, or developmental disabilities or not) need to be assessed for their impact on the person living with HIV/AIDS in further studies.

Hypothesis 4 (Ho_4): All demographic factors and subdimensions of social supports will contribute equally to quality of life among individuals diagnosed with HIV.

The demographic factors in this study (age, sex, marital status, having children, years of attending support group meetings, education, employment status, years of HIV diagnosis, religion, and belonging to other networks) and the subdimensions of social supports (tangible, affectionate, positive social interaction, and emotional/informational support) were analyzed to determine which of these factors contributed most to quality of life. In this study, these factors did not contribute equally to quality of life. Age, sex, having children, years of attending support group meetings, and education in years predicted quality of life. However, sex contributed the most to quality of life in this current study even though prior literature indicates that overall social supports is the strongest predictor of quality of life (Sun et al., 2013). This inconsistency may be due to the differences in the study settings/context. Thus, the Sun et al. study was conducted in a non-low resource country (China), while the current study was conducted in a low resource country (Ghana). Therefore, the null hypothesis that these predictors will contribute equally to quality of life was rejected. Having children or not influenced quality of life.

Stewart et al. (2005) discovered that PLWA without children reported greater pain experiences and health distress. This finding is consistent with results from this study as those who have children reported better quality of life than do those who do not have children. Even though age, marital status, employment status, years of HIV diagnosis, religion, and belonging to other networks did not significantly predict quality of life in this current study, prior research indicated otherwise. In the literature, the following demographic factors predicted quality of life: age (Mavandadi, Zanjani, Ten Have, & Oslin, 2009; Vyavaharkar, Moneyham, Murdaugh, & Tavakoli, 2012); age and marital status (Ncama et al., 2008); religion (Flannelly & Inouye, 2001; Kudel et al., 2011); years of HIV diagnosis (Tsevat et al., 2009; Vyavaharkar et al., 2012) and employment status (Rueda, 2011; Rüütel, Pisarev, Loit, & Uusküla, 2009; Atkins et al., 2010). However, Flannelly and Inouye (2001) and Vyavaharkar et al. (2012) found that age did not predict quality of life. The findings from these two studies are consistent with outcomes from this current study although these two studies were conducted in geographically different settings. It is possible that these studies found similar results because they both used a non-random sample. None of the subdimensions of social supports predicted quality of life but in other studies, these subdimensions predicted quality of life: affectionate social support (Bajunirwe et al., 2009); emotional/informational support (Bhargava & Booysen, 2010; Burgoyne & Renwick, 2004; Friedland et al., 1996); and tangible social support (Atkins et al., 2010; Crook et al., 2005; Perez et al., 2009). However, some prior studies found no relationships between tangible support and quality of life (Bajunirwe et al. 2009; Mohanan & Kamath, 2009). This finding from Bajunirwe et al. (2009) and Mohanan and Kamath (2009) match the findings in the current study. Perhaps, the similarity in the study settings is responsible for the consistency in the findings on age. It is important to conduct qualitative or mixed-methods studies that will examine why none of the subdimensions of social support contributed to quality of life in this study.

Hypothesis 5 (Ho_5): There is no relationship between socio-demographic factors and social supports combined with the quality of life of individuals with HIV/AIDS.

The literature indicates that age (Mavandadi, Zanjani, Ten Have, & Oslin, 2009; Ncama et al., 2008), gender, marital status, and social supports are predictive of quality of life (Ncama et al., 2008). In this study, socio-demographic factors and social support combined, were predictive of quality of life. Therefore, the null hypothesis that there is no relationship between socio-demographic factors and social support is not supported. As this finding is consistent with the literature, more needs to be done regarding the receipt of social supports with respect to the various socio-demographic factors to ensure the sustained improvement in the quality of life of people living with HIV/AIDS.

Methodological Limitations

This study is cross-sectional and causal relationships between the variables in the study were not established. Because the study used a convenient sample of participants, as participants were not randomly selected, findings of the study are not generalizable to the population of individuals infected with HIV/AIDS in Ghana. For example, because the majority of population from which the data were collected is poor and did not have more than high school education, findings from the study are not generalizable to individuals infected with HIV/AIDS who have more than high school education or are wealthy. A vast majority of the respondents who completed this study could read and write English. Persons who are not literate were under-represented in this. Those who requested for assistance in completing the survey were few. It is possible that the nature of the questionnaire (self reporting by circling the right answer) made it easier for many to complete the surveys independently. The few respondents that ‘listened’ to some selected questions may not differ from those who ‘read’ the questions. Therefore, the results for those who read or listened were not analyzed separately.

In addition, it was impossible to determine the exact duration of HIV/AIDS, as individuals may have been infected many years before the time they were diagnosed with HIV/AIDS. This inability of the study to determine the exact date of HIV/AIDS infection is even more of a problem in countries, like Ghana, where there is limited access to health care or screening for HIV/AIDS. Therefore, any findings regarding the duration of HIV/AIDS as a predictor of QoL may have to be interpreted with caution.

It was expected that some, if not all, of the respondents may have found a number of the questions to be sensitive in nature and too personal to respond to. To help offset this limitation and improve response rate, explanation of the purpose and potential benefits of the research were discussed with the participants and incentives were given to those who completed the survey.

Methodological Strengths

Despite the limitations, this study is an important step in statistically evaluating the relationship between socio-demographic factors and social support and quality of life and adds to the existing literature on the global impact of HIV/AIDS and socio-demographic factors on quality of life and social support in developing countries. Using concepts that have been extensively studied, though not yet in Ghana, is a strength of this study because this study has a great wealth of research data to draw from. Furthermore, the measurement instruments used have sound psychometric properties and have also been used in many settings and have demonstrated adequate reliability and validity. Last, this study highlights the social components of the lives of those living with HIV/AIDS. This is a strength compared with a study that only uses the “medical model” to examine the quality of life issues among PLWA.

Implications for Research, Practice, and Policy

Findings from this study have implications for social work practice, policy, and research in the Ghanaian community in particular. Considering that HIV/AIDS infection rate is disproportionately high in developing countries, and majority of the PLWA report lower social support and poorer quality of life, research evidence about the relationships between socio-demographic characteristics, social support, and quality of life among PLWA in Ghana in particular and in developing countries in general is sparse. The findings from this study informs research and could be useful in setting the pace for conducting further research to determine other variables that influence the receipt of social supports and the reports of quality of life. Findings also provide preliminary information that may guide further research on socio-demographic and social support correlates of quality of life among those diagnosed with HIV/AIDS in Ghana in particular and in developing countries in general. Given the limited human and material resources in this study setting, these findings provide information that suggests the design of specific social support interventions for meeting the needs of those diagnosed with HIV/AIDS in Ghana. It is evident from the study that social support is highly associated with quality of life. Therefore, policy makers need to consider formulating policies that can facilitate easy access to social supports for persons living with HIV/AIDS. Despite the methodological limitations, implications of this study also inform policy about how resources should be redistributed across socio-demographic factors among the HIV/AIDS population in Ghana to help improve their quality of life.

Conclusions

This study reports on the relationships between socio-demographic factors, social support, and quality of life among PLWA in Ghana. In conclusion, this study aimed to add to the scant empirical literature on the possible relationships between socio-demographic factors, social supports and quality of life among PLWA in Ghana in particular, and in developing countries in general. Little has been studied on quality of life and social support within the Ghanaian society. The study concluded that males and females receive different amounts of social supports and they also report different levels of quality of life. Thus, males receive more social support and report higher quality of life compared to their female counterparts. Likewise, those who are married and educated reported different levels of social support compared to their unmarried counterparts but did not necessarily differ in their reports of quality of life. However, there was not a lot of variation in the variable education so results on education must be interpreted with caution. Moreover, there was a strong association between the combination of socio-demographic factors such as sex and education with social support and the quality of life of the PLWA in Ghana. Next, one's sex (being male) moderated the relationship between social support and quality of life. Thus, the interaction of male and social support positively related with quality of life. As a result of this interaction, males reported higher quality of life than females when they reported both low and high social supports. Results from this study were consistent with the results from the literature for most of the variables. Further qualitative and quantitative studies need to be conducted to investigate why the inconsistency in results on the relationship between variables like employment and quality of life. The study did not necessarily investigate whether respondents were employed formally or informally even though it appears some of them are informally employed but presented as unemployed. Employment, though not a significant contributor to social support and quality of life in this study may have clinical effects on both social support and quality of life. Further studies need to be conducted to determine the qualitative and clinical effects of informal employment on the lives of people living with HIV/AIDS in Ghana and how these effects of employment influence their quality of life.

Appendix A

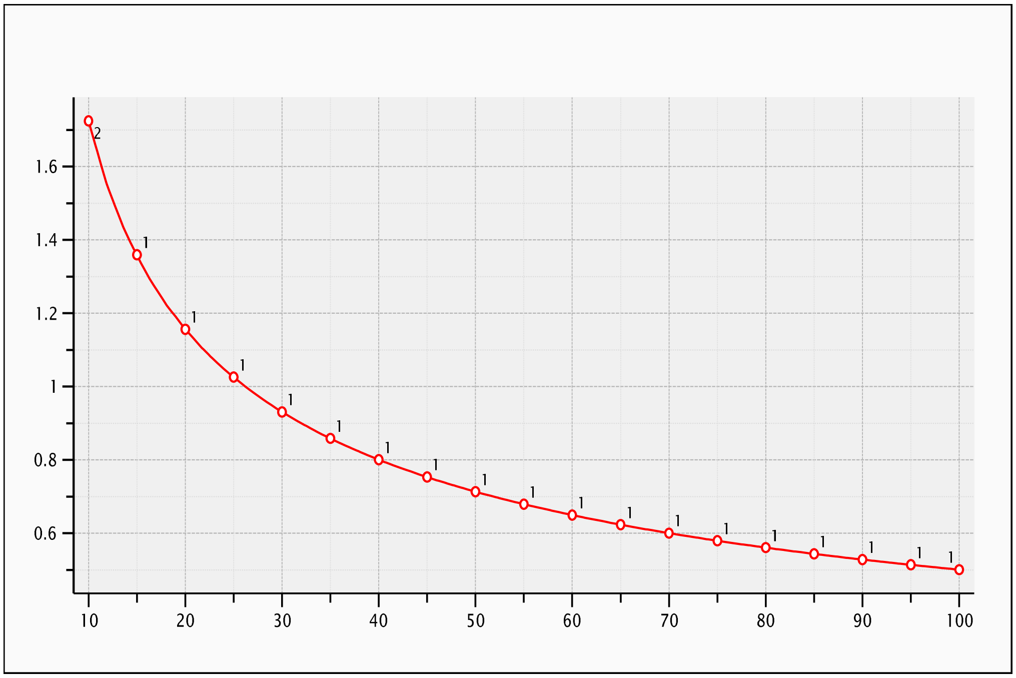
Some Developing Countries in Africa (Adopted from the World Bank, 2011)

Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo, Dem. Rep.
Congo, Rep
Côte d'Ivoire
Eritrea
Ethiopia
Gabon
Gambia, The
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mayotte
Mozambique
Namibia
Niger
Nigeria
Rwanda
São Tomé and Principe
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Tanzania
Togo
Uganda
Zambia
Zimbabwe

Appendix B

The Summary of Power Analysis: A Priori Sample Estimation for an Independent Sample t-test using G* Power 3.10

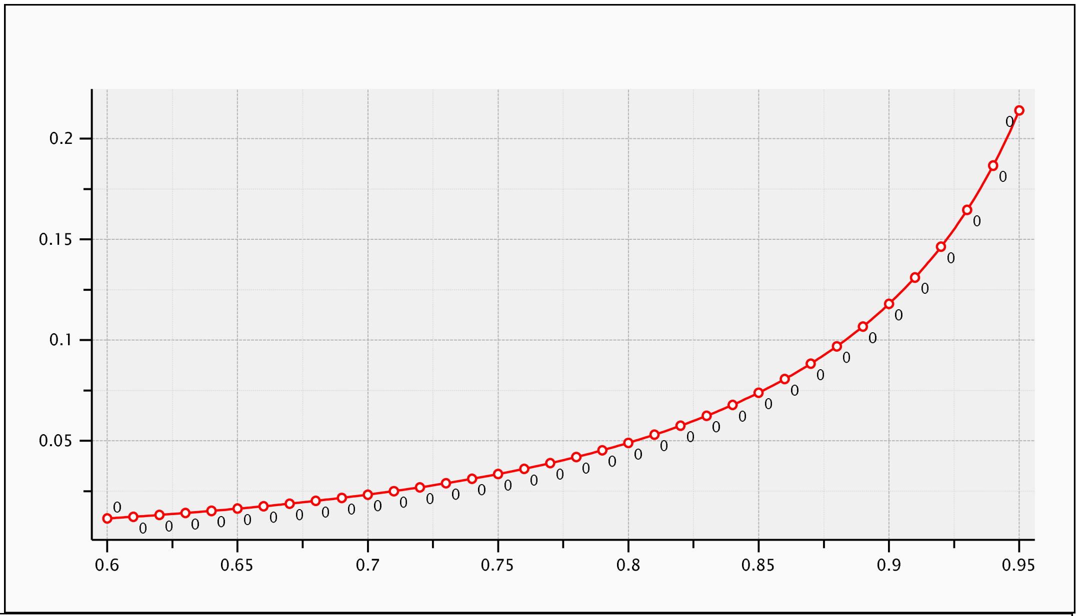
Power (1-β =. 80)	
Significant level (α)	Medium effect size(. 50)
.05	N=102 (51 in each group)

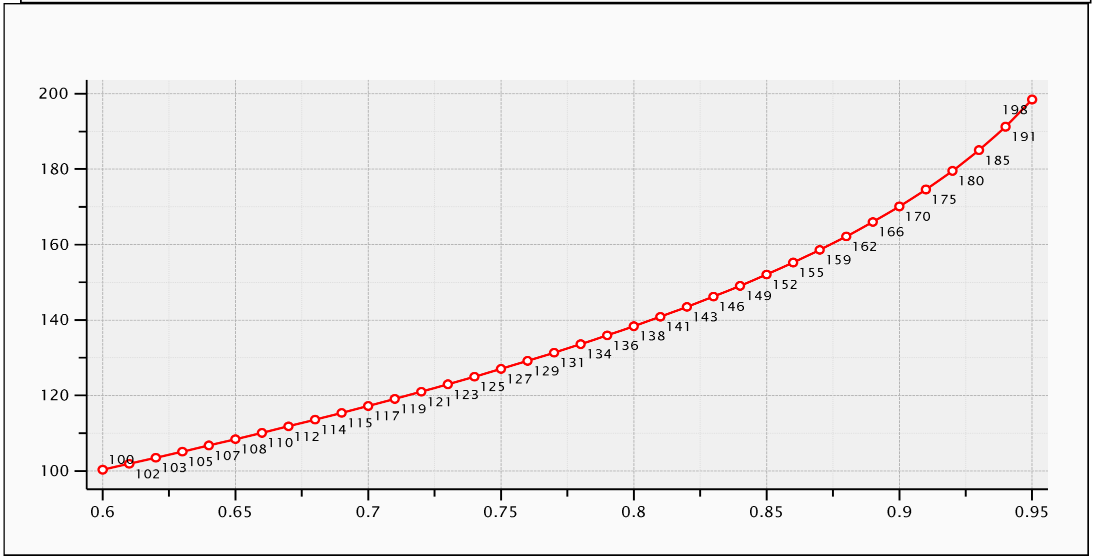


Appendix C

The Summary of Power Analysis: A Priori Sample Estimation for Multiple Regression using G* Power 3.13 (2009)

Power (1-β =. 80)	
Significant level (α)	Medium effect size (.15)
.05	N=139





Appendix D

Concepts and Number of Items in the MOS-HIV (Cited in Wu et al., 1997)

Concepts	No. of Items	Meaning of Scores (Low)
General health perceptions	5	Views personal health as poor
Physical functioning	6	Very limited in performing physical activities due to poor health including eating, dressing, bathing or using the toilet
Role functioning	2	As a result of physical health, experiences problems with work or daily activities
Pain	2	Very severe and limiting pain
Social functioning	1	Social activities limited due to health
Mental health	5	Feels nervous and depressed all of the time
Energy	4	Feels tired and worn out all of the time
Health distress	4	Feels despair, discouraged and afraid due to health all of the time
Cognitive functioning	4	Has difficulty concentrating, reasoning and remembering all of the time
Quality of life	1	Life has been very bad; could hardly be worse
Health transition	1	Physical health and emotional condition much worse than 4 weeks ago

Appendix D (Continued)

Concepts	No. of Items	Meaning of Scores (High)
General health perceptions	5	Views personal health as excellent
Physical functioning	6	Performs all types of physical activities due to poor health including vigorous or strenuous activities without limitations
Role functioning	2	No problems with work or other daily activities as a result of health
Pain	2	No pain or limitations due to pain
Social functioning	1	No limitations on social activities as a result of health
Mental health	5	Feels calm, peaceful and happy all of the time
Energy	4	Feels energetic and full of pep all the time
Health distress	4	Does not feel despair, discouraged and afraid due to health
Cognitive functioning	4	Has no problem concentrating, reasoning and remembering
Quality of life	1	Life has been very good; could hardly be better
Health transition	1	Physical health and emotional condition much better than 4 weeks ago

Appendix E

Reverse Coded Items (MOS-HIV Survey)

C11. a. Please check the box that describes whether each of the following statements is true or false for you.

b. I am as healthy as anybody I know.

c. My health is excellent.

Response Choice	Questionnaire Coded Value	Reverse Coded Value
Definitely True	1	5
Mostly True	2	4
Not Sure	3	3
Mostly False	4	2
Definitely False	5	1

C12. How has the quality of your life been during the past 4 weeks? That is, how have things been going for you? (PLEASE CHECK ONE).

Response Choice	Questionnaire Coded Value	Reverse Coded Value
Very well; could hardly be better	1	5
Pretty good	2	4
Good and bad parts about equal	3	3
Pretty bad	4	2
Very bad; could hardly be worse	5	1

C13. How would you rate your physical health and emotional condition now compared to 4 weeks ago? (PLEASE CHECK ONE)

Response Choice	Questionnaire Coded Value	Reverse Coded Value
Much better	1	5
A little better	2	4
About the same	3	3
A little worse	4	2
Much worse	5	1

C2. How much bodily pain have you generally had during <u>the past 4 weeks</u>? (PLEASE CHECK ONE)

Response Choice	Questionnaire Coded Value	Reverse Coded Value
None	1	6
Very Mild	2	5
Mild	3	4
Moderate	4	3
Severe	5	2
Very Severe	6	1

C3. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? (PLEASE CHECK ONE)

Response Choice	Questionnaire Coded Value	Reverse Coded Value
Not at all	1	5
A little bit	2	4
Moderately	3	3
Quite a bit	4	2
Extremely	5	1

C8. How much of the time, during the past 4 weeks:

b. Have you felt calm and peaceful?

d. Have you been a happy person?

C9. How often during the past four weeks:

a. Did you feel full of pep (or energy)?

d. Did you have enough energy to do the things you wanted to do?

Response Choice	Questionnaire Coded Value	Reverse Coded Value
All of the Time	1	6
Most of the Time	2	5
A Good Bit of the Time	3	4
Some of the Time	4	3
A Little of the Time	5	2
None of the Time	6	1

UNIVERSITY of MARYLAND
SCHOOL OF SOCIAL WORK

Appendix F

Letter of Introduction to the Study

SURVEY ADMINISTRATOR'S SCRIPT TO BE READ TO EACH PERSON WHO IS ASKED TO FILL OUT THE SURVEY.

Monday, September 2, 2013

Dear NAP+ Ghana Member:

I am a doctoral student at the University of Maryland, Baltimore in the USA. I am very interested in obtaining information from you that can be used to help us to know if demographic factors (age, income, gender, etc.) and social supports affect your quality of life. I would like to know if you are willing to fill out a form that contains some questions about what you think of the social support services you receive and what your quality of life is. Your answers will help the NAP+ Ghana secretariat and decision makers know if your demographic factors and the support you receive have an effect on your quality of life.
The survey should only take between 20-30 minutes to complete.
If you would like to fill out one of the questionnaires, I will need to take a few minutes to briefly explain the purpose of the study before asking you to fill out the questionnaire.

Are you interested in filling out a questionnaire? [For the subjects that agreed to participate in the study, I explained the details of the study and had them complete the survey].

[I thanked those who were not interesting in participating for their time.]

[I continued with the next set of comments as follows]:

Please take a few minutes to fill out the questionnaire. The filling out of the questionnaire will take about 20-30 minutes. None of the information collected will allow anyone to know your name or where you live. Your answers will only be combined with those of others to help the NAP+ Ghana and decision makers understand whether these issues affect your quality of life. Knowing your responses will also help them further decide how best to improve these factors that may directly have an impact on your quality of life.

[I will hand a copy of the survey to the participants- when they are finished, I will check it for completeness and thank them for their time].

If you have any questions about this survey of the socio-demographic factors, social supports, and quality of life or your rights as a participant in this study, please e-mail Tina Abrefa-Gyan @ tabrefa-gyan@ssw.umaryland.edu or Dr. Cornelius at lcornelius@ssw.umaryland.edu. This study has been reviewed and approved by the University of Maryland, Baltimore Institutional Review Board (IRB), the University of Ghana, and the Ghana Network of Persons Living with HIV/AIDS (NAP+ Ghana).

I hope you enjoy completing the survey and I look forward to receiving your responses.

Sincerely,

Tina Abrefa-Gyan, MSW
Doctoral Student

Llewellyn Cornelius, Ph.D.
Professor and Principal Investigator

Flyer for Introducing the Study

A RESEARCH STUDY ON SOCIAL SUPPORTS AND HIV/AIDS

Greetings NAP+ member,

I (Tina Abrefa-Gyan) am here today to administer a 20-30 minute survey that **examines how NAP+ support group members like you see the ways that social support and other issues affect your quality of life.** I am a doctoral student at the University of Maryland, Baltimore. This study is part of my doctoral dissertation which is being supervised by Dr. Llewellyn Cornelius at the University of Maryland Baltimore.

This study has been approved both by the University of Maryland IRB board, the local IRB from Noguchi Memorial Institute for Medical Research at the University of Ghana, and the NAP+ Presidents' Office.

If you are interested in participating in this study, you will be asked to complete a survey. You must be 18 years of age or older in order to participate in this study.

Should you choose to participate in this study you can complete the survey in one of the private offices here at NAP+.

I will not be collecting any data in this survey that will allow either NAP+ or I to identify you.

After you complete the survey, you will receive a compensation of 10 Ghana cedis (US$5) for your time and efforts.

In closing, if you are interested in knowing more about this study and would like to participate in it, please stop by the NAP+ president's office following the presentation, so the staff can direct you to my private office.

Thanks in advance for your time and consideration.

INTERVIEWER SCRIPT
Attachment 1. INSTRUCTIONS TO SURVEY ADMINISTRATOR

(1) **Introduced myself and the survey to the respondent.**
After introducing the respondent to the study, I will gave the respondent a copy of the survey questionnaire and went over the format of the Survey form; that is,

- Pointed out answer choices
- Mentioned the questions require only one answer.

(2) After orienting the respondent to the survey questionnaire (form), I will said that "I will want to emphasize, or in some cases, reemphasize, the following points:"

- Each question should be read carefully before it is answered
- When you feel that you have understood the question and have decided upon your answer, you should check the number that matches the answer you have decided upon.
- Responses should be provided for all the questions in the survey.
- There are no right or wrong answers.
- Because I want to know what your responses are, you are to use your best judgment in interpreting and responding to each question
- I am here to help if you have any questions or if you need to clarify any items on the survey form or anything about the survey process.
- When you complete the survey form, I will give you a compensation of Ghana ¢ 10 (US $5), Please contact Ms. Tina Abrefa-Gyan (me), the NAP+ Ghana secretariat's president, or Dr. Llewellyn Cornelius if you have questions (after you leave).

After going over the points above, I gave the participant the survey form and had him/her complete it (in the pre-arranged seminar rooms/offices located within the agency building where this researcher was present as well).

(1) I did not offer any advice about what I thought any of the questions meant. Instead I told them to use their best judgment in responding to each question.
(2) Whenever a survey form was turned in, I will reviewed it carefully to make sure that a response is circled for each item, and that <u>*more than one answer*</u> <u>*was not circled.*</u>
(3) After ensuring that the form was complete, I did the following:

- Thanked the participant for taking the time to complete the survey.
- I reminded them that their participation has been very valuable because the information that they provided will be used to help the NAP+ secretariat and the policy makers as well to evaluate how well socio demographic factors and social supports influence their quality of life and to suggest ways in which these factors and social supports can be improved;
- I reminded them to email me, Ms. Tina Abrefa-Gyan, the Ghana Network of Persons Living with HIV/AIDS (NAP+) Secretariat, or Dr. Llewellyn Cornelius if they had further questions after they leave

Appendix G

Questionnaire (survey instrument)

Socio-demographic Factors, Social Supports, and Quality of Life among People Living with HIV/AIDS in Ghana

We are conducting a survey about how personal and family (socio-demographic) factors as well as social supports affect the quality of life of people living with HIV/AIDS. We would like to know your responses to the questions regarding these issues. Our goal is to use the responses to find out whether these personal and family factors and your social supports affect your quality of life. Your responses may help improve the services you receive from the NAP+ Ghana and from other social/health services providers. Also, decision makers may use findings from this study when deciding on how best to help people living with HIV/AIDS in Ghana.

Have you completed this survey before?

Yes 1☐ (If Yes, thank you for completing the survey).
No 2☐ (If No, please answer the questions below).

PERSONAL AND FAMILY FACTORS

Please answer the following questions by placing a “x” in the appropriate box or by writing your answer in the space or box provided.

A1. Are you male or female? (PLEASE CHECK ONE)

Male 1☐
Female 2☐
Other (please specify) _______________

A2. Please list your age in years? _______________

A3. What is your marital status? (PLEASE CHECK ONE)

Married 1☐
Not married (specify your relationship status) _________ 2☐

A4. Do you have children? (PLEASE CHECK ONE)

Yes 1☐
No 2☐

A5. How many years of schooling have you acquired? (PLEASE SELECT ONLY ONE CATEGORY)

0-12 (none-up to secondary school education) 1☐
13 years or more (more than secondary school education) 2☐

A6. What is your current employment status? (PLEASE CHECK ONE)

Unemployed 1☐
Employed 2☐

A7. What is your current monthly income in Ghanaian cedis (GH ¢) (PLEASE CHECK ONE)

GH ¢0-100.99 1☐
GH ¢101-500.99 2☐
GH ¢501-1,000.99 3☐
Greater than GH ¢1,001 4☐

A8. Identify in years the time since your first diagnosis with HIV/AIDS (PLEASE CHECK ONE)

0-1 year	1☐
1-2 years	2☐
2-3 years	3☐
3-4 years	4☐
Greater than 4years	5☐

A9. What is your religion? (PLEASE CHECK ONE)

Christian	1☐
Non-Christian (specify) ________	2☐

A9.a. Please describe your spirituality/spiritual activities and how you think your involvement in spiritual activities affect your HIV/AIDS condition (PLEASE WRITE YOUR ANSWER IN THE BOX BELOW)

A10. How long have you been attending the support group meetings? (PLEASE CHECK ONE)

0-1 year	1☐
Greater than1 year	2☐

A11. Do you have any family members who benefit from the knowledge gained from the workshops you attend here at NAP+? (PLEASE CHECK ONE)

Yes	1☐
No	2☐

A12. Do you belong to other network systems (any group) that help you to support yourself? (PLEASE CHECK ONE)

Yes	1☐
No	2☐

A12.a. If yes, describe this group, its activities, and your level of commitment to group activities: (PLEASE WRITE YOUR ANSWER IN THE BOX BELOW).

A12.b. Describe what can be done to help improve your access to the networks: (PLEASE WRITE YOUR ANSWER IN THE BOX BELOW).

A13. In order to help develop effective social support interventions, please tell us more about your access to support/help in time of need. These support systems may include material resources, emotional support, employment, etc. (PLEASE WRITE YOUR ANSWER IN THE BOX BELOW).

B. SOCIAL SUPPORT

People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you? (PLEASE CHECK ONE BOX ON EACH LINE).

	None of the Time 1	**A Little of the Time 2**	**Some of the Time 3**	**Most of the Time 4**	**All of the Time 5**
B1Emotional/informational Support					
B1.a. Someone you can count on to listen to you when you need to talk.	☐	☐	☐	☐	☐
B1.b.Someone to give you information to help you understand a situation.	☐	☐	☐	☐	☐
B1.c. Someone to give you advice about a crisis.	☐	☐	☐	☐	☐
B1.d. Someone to confide in or talk to about yourself or your problems.	☐	☐	☐	☐	☐
B1.e. Someone whose advice you really want.	☐	☐	☐	☐	☐
B1.f. Someone to share your most private worries and fear with.	☐	☐	☐	☐	☐
B1.g. Someone to turn to for suggestions about how to deal with a personal problem.	☐	☐	☐	☐	☐
B1.h. Someone who understands your problem.	☐	☐	☐	☐	☐
B2 Tangible support					
B2.a. Someone to help you if you were confined to bed.	☐	☐	☐	☐	☐
B2.b. Someone to take you to the doctor if you needed it.	☐	☐	☐	☐	☐
B2.c. Someone to prepare your meals if you were unable to do it yourself.	☐	☐	☐	☐	☐
B2.d. Someone to help with daily chores you were sick.	☐	☐	☐	☐	☐
B3 Affectionate support					
B3.a. Someone who shows you love and affection.	☐	☐	☐	☐	☐
B3.b. Someone to make you feel loved and wanted.	☐	☐	☐	☐	☐
B3.c. Someone who hugs you.	☐	☐	☐	☐	☐
B4 Positive social interaction					
B4.a. Someone to have a good time with.	☐	☐	☐	☐	☐
B4.b. Someone to get together with for relaxation.	☐	☐	☐	☐	☐
B4.c. Someone to do something enjoyable wiith.	☐	☐	☐	☐	☐
B5. Additional item					
B5.a. Someone to do things with to help you get things off your mind.	☐	☐	☐	☐	☐

C. QUALITY OF LIFE

Please answer the following questions on quality of your life by placing a “x” in the appropriate box.

C1. In general, would you say that your health is? (PLEASE CHECK ONE)

Excellent	1☐
Very Good	2☐
Good	3☐
Fair	4☐
Poor	5☐

C2. How much bodily pain have you generally had during the past 4 weeks? (PLEASE CHECK ONE)

None	1☐
Very Mild	2☐
Mild	3☐
Moderate	4☐
Severe	5☐
Very Severe	6☐

C3. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? (PLEASE CHECK ONE)

Not at all	1☐
A little bit	2☐
Moderately	3☐
Quite a bit	4☐
Extremely	5☐

C4. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much? (PLEASE CHECK ONE BOXON EACH LINE).

		YES, Limited A Lot **1**	**YES, Limited A Little** **2**	**NO, Not Limited At All** **3**
a.	The kinds or amounts of **vigorous** activities you can do, like lifting heavy objects, running or participating in strenuous sports.	☐	☐	☐
b.	The kinds or amounts of **moderate** activities you can do, like moving a table, carrying groceries or bowling.	☐	☐	☐
c.	**Walking** uphill or climbing a few flights of stairs.	☐	☐	☐
d.	**Bending**, lifting or stooping.	☐	☐	☐
e.	**Walking one block**.	☐	☐	☐
f.	**Eating**, dressing, bathing, or using the toilet.	☐	☐	☐

C5. Does your health keep you from working at a job, doing work around the house or going to school? (PLEASE CHECK ONE)?

Yes	1☐
No	2☐

C6. Have you been unable to do certain kinds or amounts of work, housework, or schoolwork because of your health? (PLEASE CHECK ONE)?

Yes	1☐
No	2☐

For each of the following questions, please check the box for the one answer that comes closest to the way you have been feeling during the past 4 weeks. (PLEASE CHECK ONE BOX ON EACH LINE)

	All of the Time 1	**Most of the Time 2**	**A Good Bit of the Time 3**	**Some of the Time 4**	**A Little of the Time 5**	**None of the Time 6**
C7. How much of the time, during the past 4 weeks, has your health limited your social activities (like visiting with friends or close relatives)?	☐	☐	☐	☐	☐	☐
C8. How much of the time, during the past 4 weeks:						
a. Have you been a very nervous person?	☐	☐	☐	☐	☐	☐
b. Have you felt calm and peaceful?	☐	☐	☐	☐	☐	☐
c. Have you felt downhearted and blue?	☐	☐	☐	☐	☐	☐
d. Have you been a happy person?	☐	☐	☐	☐	☐	☐
e. Have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐	☐	☐
C9. How often during the past four weeks:						
a. Did you feel full of pep (or energy)?	☐	☐	☐	☐	☐	☐
b. Did you feel worn out?	☐	☐	☐	☐	☐	☐
c. Did you feel tired?	☐	☐	☐	☐	☐	☐
d. Did you have enough energy to do the things you wanted to do?	☐	☐	☐	☐	☐	☐
e. Did you feel weighed down by your health problems?	☐	☐	☐	☐	☐	☐
f. Were you discouraged by your health problems?	☐	☐	☐	☐	☐	☐
g. Did you feel despair over your health problems?	☐	☐	☐	☐	☐	☐
h. Were you afraid because of your health?	☐	☐	☐	☐	☐	☐

For each of the following questions, please check the box for the one answer that comes closest to the way you have been feeling during the past 4 weeks.(PLEASE CHECK ONE BOX ON EACH LINE).

	All of the Time 1	**Most of the Time 2**	**A Good Bit of the Time 3**	**Some of the Time 4**	**A Little of the Time 5**	**None of the Time 6**
C10. How much of the time, during the past 4 weeks:						
a. Did you have difficulty reasoning and solving problems, for example, making plans, making decisions, and learning new things?	☐	☐	☐	☐	☐	☐
b. Did you forget things that happened recently, for example, where you put things and when you had appointments?	☐	☐	☐	☐	☐	☐
c. Did you have trouble keeping your attention on any activity for long?	☐	☐	☐	☐	☐	☐
d. Did you have difficulty doing activities involving concentration and thinking?	☐	☐	☐	☐	☐	☐

C11. Please check the box that describes whether each of the following statements is true or false for you.

	Defi-nitely True 1	**Mostly True 2**	**Not Sure 3**	**Mostly False 4**	**Defi-nitely False 5**
a. I am somewhat ill.	☐	☐	☐	☐	☐
b. I am as healthy as anybody I know.	☐	☐	☐	☐	☐
c. My health is excellent.	☐	☐	☐	☐	☐
d. I have been feeling bad lately.	☐	☐	☐	☐	☐

C12. How has the quality of your life been during the <u>past 4 weeks</u>? That is, how have things been going for you? (PLEASE CHECK ONE).

Very well; could hardly be better	1☐
Pretty good	2☐
Good and bad parts about equal	3☐
Pretty bad	4☐
Very bad; could hardly be worse	5☐

C13. How would you rate your physical health and emotional condition now compared to <u>4 weeks ago</u>? (PLEASE CHECK ONE)

Much better	1☐
A little better	2☐
About the same	3☐
A little worse	4☐
Much worse	5☐

D. KNOWING ABOUT HIV/AIDS

Read each question. Carefully check the one answer that fits best. (PLEASE CHECK ONE BOX ON EACH LINE).

	I am Sure it's True 1	**I Think it's True 2**	**I Don't Know 3**	**I Think it's False 4**	**I'm Sure it's False 5**
D1. Hugging a person with AIDS is a way to get HIV.	☐	☐	☐	☐	☐
D2. The virus that causes AIDS is found in blood.	☐	☐	☐	☐	☐
D3. You do not get HIV by using a public sink to wash your hands.	☐	☐	☐	☐	☐
D4. Teenagers can get AIDS.	☐	☐	☐	☐	☐
D5. Eating food made by a person with AIDS can give you HIV.	☐	☐	☐	☐	☐
D6. You can get HIV by using the same telephone as a person with AIDS.	☐	☐	☐	☐	☐
D7. You can tell whether people are infected with HIV by looking at them.	☐	☐	☐	☐	☐
D8. Having sexual intercourse is a way to get HIV.	☐	☐	☐	☐	☐
D9. You do not get HIV by swimming in a public swimming pool.	☐	☐	☐	☐	☐
D10.Sharing needles to take steroids is one way to get HIV.	☐	☐	☐	☐	☐
D11. Only boys and men get HIV.	☐	☐	☐	☐	☐
D12. HIV is not spread by fleabite.	☐	☐	☐	☐	☐
D13. Dancing with a person who has AIDS is a way to get HIV.	☐	☐	☐	☐	☐
D14. As soon as people get HIV, they begin to feel sick.	☐	☐	☐	☐	☐
D15. Condoms are 100% effective in preventing HIV.	☐	☐	☐	☐	☐

E. KNOWLEDGE OF HIV RISKY BEHAVIOR

Read each question. Where applicable, carefully answer the question, or check the one answer that fits best.

E1. Please list the number of your lifetime sexual partners? ____

E2. How often did you or your partner use condom for disease protection in the last 12 months?

Number of times: ___________
None (please place “x” here):____

E3. What would you say are the chances that you have had sexual intercourse with someone who might be infected with HIV-the virus that causes AIDS? (PLEASE CHECK ONE)

Low	1☐
Medium	2☐
High	3☐

THANK YOU FOR COMPLETING THIS SURVEY. WE APPRECIATE THE TIME YOU HAVE TAKEN AWAY FROM ALL THE THINGS YOU HAVE TO DO TODAY TO COMPLETE THE SURVEY.

TINA ABREFA-GYAN

DR. LLEWELLYN CORNELIUS

F. INTERVIEWER'S ASSESSMENT OF RESPONDENTS' CONCEPTUAL UNDERSTANDING OF THE SURVEY ITEMS

All subsequent questions should be answered by the interviewer after the interview is concluded.

Read <u>each</u> question. Carefully select and/or write the answer(s) that <u>fit best</u>.

F1. (PLEASE CHECK ONE)

		YES, 1	NO 0
a.	Did the respondent check with others for information to answer any question?	☐	☐
b.	Do you think anyone influenced the respondent's answers during the interview?	☐	☐
c.	Did you feel threatened during the interview?	☐	☐
d.	Were you physically threatened during the interview?	☐	☐

F2. What proportion of the questions do you feel the respondent had difficulty answering?

All	4☐
Most	3☐
Some	2☐
Few	1☐
None	0☐

F3. Which questions did the respondent have trouble answering? [Identify up to three. If the respondent had trouble with less than three, check the box assigned to response option "000."

Less than three	000☐
Three or more	☐

(List question numbers) _______________

G. IINTERVIEWER'S OBSERVATIONS

G1. INTERVIEWER: Do you have any other comments on the interview? For example, did anything else significant happen during the interview? (PLEASE CHECK ONE)

No	0☐
Yes	1☐

If Yes: [Explain]

____

____

____

Appendix H

Health Statistics and Health Information Systems of Ghana (Adopted from WHO, 2011).

Total population	**23,837,000**
Gross national income per capita (PPP international $)	1,320
Life expectancy at birth m/f (years)	57/64
Probability of dying under five (per 1 000 live births)	69
Probability of dying between 15 and 60 years m/f (per 1 000 population)	402/253
Total expenditure on health per capita (International $, 2009)	122
Total expenditure on health as % of GDP (2009)	8.1

Appendix I

Support Groups within NAP+ Ghana, Achimota, Accra

Number	Name of Support Group	Membership	Female	Male
	Goodwill Aid Foundation	98	69	29
	Global Disease Control	78	57	21
	Young Women Against Stigma Foundation	49	26	23
	Grass To Grace Foundation	70	45	25
	Humanity Health Focus	58	41	17
	Almond Tree	50	45	5
	People's Unity Foundation	68	20	48
	Lord Our Shepherd	54	35	19
	Let Them Say Advocacy Support Group	63	33	30

References

Abbott, S., & Freeth, D. (2008). Social capital and health: Starting to make sense of the role of generalized trust and reciprocity. *Journal of Health Psychology, 13,* 874–883. doi: 10.1177/1359105308095060

Adday, L. A., & Cornelius, L. J. (2006).*Designing and conducting health surveys:A comprehensive guide. (3rded.).* San Francisco, AC: Jossey-Bass.

Aguilar, J. P., & Sen, S. (2009). Comparing conceptualizations of social capital.*Journal of Community Practice, 17,* 424-443. doi: 10.1080/10705420903299979

Ansah-Koi, A. (2006). Care of orphans: Fostering interventions for children whose parents die of AIDS in Ghana. *Families in Society, 87,*555-564. Retrieved from www.familiesinsociety.org

Ansong, D. (2009). Ghana country assessment for youth development accounts (CSD Country Brief 09-39). St. Louis, MO: Washington University, Center for Social Development.

Aron, L. (1990). One person and two person psychologies and the method of psychoanalysis.*Psychoanalytic Psychology, 1990, 7,* 475-485. Retrieved from http://psycnet.apa.org/journals/pap/7/4/475/

Ashton, E., Vosvick, M., Chesney, M., Gore-Felton, C., Koopman, C., O'shea, K., Maldonado, J., …& Spiegel, D. (2005). Social support and maladaptive coping as predictors of the change in physical health symptoms among persons living with HIV/AIDS. AIDS Patient Care and STDs, 19, 587- 598. Retrieved from http://www.thebody.com/content/living/art24366.html

Awusabo-Asare, K. (1995). HIV/AIDS education and counseling: Experiences from Ghana. *Health Transition Review, 5*, 229-236. Retrieved from http://htc.anu.edu.au/pdfs/Awusabo2.pdf

Avert (2009). Children, HIV and AIDS. Retrieved from http://www.avert.org/children.htm#

Bajunirwe, F., Tisch, D. J., King, C. H., Arts, E. J., Debanne, S. M., & Sethi, A. K. (2009). Quality of life and social support among patients receiving antiretroviral therapy in Western Uganda. *AIDS Care, 21*, 271-279. Retrieved from http://dx.doi.org.proxy-hs.researchport.umd.edu/10.1080/09540120802241863

Barnes, J. A. (1954). Class and committees in a Norwegian Island Parish. *Human Relations, 7,* 39-58. Retrieved from http://garfield.library.upenn.edu/classics1987/A1987H444400001.pdf

Barnet, P. A., & Gotlib, I. H., (1988). Psychosocial functioning and depression: Distinguishing among antecedents, concomitants, and consequences. *Psychological Bulletin, 104,* 97-126. doi: 10.1037/0033-2909.104.1.97

Barnett, T., & Whiteside, A. (1999). HIVAIDS and development: Case studies and a conceptual framework. *The European Journal of Development Research, 11,* 200-234. doi: 10.1080/09578819908426744

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182. Retrieved from http://www.public.asu.edu/~davidpm/classes/psy536/Baron.pdf

Berkman, L. F., & Glass, T. (2000). Social integration, social networks, social support and health. In L. F. Berkman & I. Kawachi (Eds.). *Social Epidemiology*. New York, NY: Oxford.

Bloom, D. E., & Mahal, A. S. (1997). Does the AIDS epidemic threaten economic growth? *Journal of Econometrics, 77*, 105-124. Retrieved from http://app.cul.columbia.edu:8080/ac/bitstream/10022/AC:P:15623/1/econ_9495_730.pdf

Bloom, S., Urassa, M., Ng'weshemi, J., Boerma, J. T. (2002). Community effects on the risk of HIV infection in rural Tanzania. *Sexually Transmitted Infections*, *78*, 261–266. doi:10.1136/sti.78.4.261

Booysen, F. (2004). HIV/AIDS, poverty and risky sexual behaviour in South Africa. *African Journal of AIDS Research, 3*, 57-67. Retrieved from http://psufasa.org/map_info/full%20documents/country%20documents/south%20Africa/organisations/SA%20poverty%20risk%20and%20social%20behaviour.pdf

Bogart, L. M., Wagner, G., Galvan, F. H., & Banks, D. (2010). Conspiracy beliefs about HIV are related to antiretroviral treatment non adherence among African American men with HIV. *Journal of Acquired Immune Deficiency Syndrome, 53,* 648–655. doi:10.1097/QAI.0b013e3181c57dbc

Bourdieu, P. (1986). *The forms of capital*. In J. G. Richardson (Ed.).Handbook of theory and research for sociology of education (pp. 241-258). New York, NY: Greenwood.

Briefing Paper (2009, February). Social protection to tackle child poverty in Ghana.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Burgoyne, R., & Renwick, R. (2004).Social support and quality of life over time among adults living with HIV in the HAART era. *Social Science & Medicine, 58,* 1353-1366. doi: 10.1016/S0277-9536(03)00314-9

Burt, R. (2001). The social capital of structural holes. In M. F. Guillen, R. Collins, P. England, & M. Meyer (Eds.). *New directions in economic sociology.* New York, NY: Russell Sage Foundation.

Buseh, A. G., Kelber, S. T., Stevens, P. E., & Park, C. G. (2008). Relationship of symptoms, perceived health, and stigma with quality of life among urban HIV-infected African American men. *Public Health Nursing, 25,* 409–419. doi: 10.1111/j.1525-1446.2008.00725.x

Cabassa, L. J., & Hansen, M. C. (2007). A systematic review of depression treatments in primary care for Latino adults. *Research on Social Work Practice, 17,* 494-503. doi: 10.1177/1049731506297058

Camlin, C. S., Hosegood, V., Newell, M, McGrath, N., Barrnighausen T., Snow, R. C. (2010). Gender, migration and HIV in rural KwaZulu-Natal, South Africa. *PloSONE, 5,* 1-10. doi:10.1371/journal.pone.0011539

Camfield, L., & Skevington, S. M. (2008). On subjective well-being and quality of life. *Journal of Health Psychology, 13,* 764-775. doi:10.1177/1359105308093860

Carpiano, R. M. (2004). *The forms of social capital: A sociomedical science investigation of neighborhood social capital as a health determinant using a*

Bourdieu framework. Unpublished Doctoral Dissertation, Columbia University, New York.

Carpiano, R. M., & Daley, D. M. (2006a). A guide and glossary on postpositivist theory building for population health. *Journal of Epidemiology and Community Health, 60*, 564-570. doi: 10.1136/jech.2004.031534

Carpiano, R. M. (2008). Actual or potential neighborhood resources for health: What can Bourdieu offer for understanding mechanisms linking social capital to health? In I. Kawachi, S.V. Subramanian, & D. Kim (Eds.), *Social capital and health* (pp. 83-93). New York, NY: SpringerLink.

Catlan, J., Beevor, A., Cassidy, L., Burgess, A. P., Meadows, J., Pergami, A., Gazzard, B., & Barton, S. (1996). Women and HIV infection: Investigation of its psychosocial consequences. *Journal of Psychosomatic Research, 41*, 39-47. Retrieved from http://www.sciencedirect.com/science/article/pii/0022399996000694

Cassel J. (1976). The contribution of the social environment to host resistance. *American Journal of Epidemiology, 104*,107–23. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/782233

Catalan, J., Beevor, A., Cassidy, L., Burgess, A. P., Meadows, J., Pergami, A., … Barton, S. (1996). Women and HIV infection: Investigation of its psychosocial consequences. *Journal of Psychosomatic Research, 41*, 39-47. doi: 10.1016/0022-3999(96)00069-4

Cattell, V. (2001). Poor people, poor places, and poor health: The mediating role of social networks and social capital. *Social Science and Medicine, 52*, 1501–1516. doi: 10.1016/S0277-9536(00)00259-8

Cella, F. (1994). Quality of Life: Concepts and definition. *Journal of Pain and Symptom Management, 9*, 186-192. Retrieved from http://scholar.google.com/scholar?hl=en&q=quality+of+life%3A+concepts+and+definitions+cella&as_sdt=20000000&as_ylo=&as_vis=0

Centers for Disease Control and Prevention (2011). Effect of antiretroviral therapy on risk of sexual transmission of HIV infection and super infection. Retrieved from http://www.cdc.gov/hiv/topics/treatment/resources/factsheets/art.htm

Centers for Disease Control and Prevention (2011). Living with HIV/AIDS. Retrieved from http://www.cdc.gov/hiv/resources/brochures/livingwithhiv.htm#q2

Centers for Disease Control and Prevention (2001). Morbidity and Mortality Weekly Report (MMWR): Recommendations and Reports. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6011a1.htm?s_cid=ss6011a1_w

Centers for Disease Control and Prevention (2009). Morbidity and Mortality Weekly Report (MMWR). Retrieved fromhttp://www.cdc.gov/mmwr/preview/mmwrhtml/mm5021a2.htm

Centers for Disease Control and Prevention (2011). Morbidity and Mortality Weekly Report (MMWR): Recommendations and Reports. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6011a1.htm?s_cid=ss6011a1_w

Central Intelligence Agency (2013). The World Fact Book. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html

Chan, A. W., Hrobjartsson, A., Haahr, M. T., Gotzsche, P. C., & Altman, D. G. (2004). Empirical evidence for selective reporting of outcomes in randomized trials: Comparison of protocols to published articles. *JAMA, 291*, 2457-2465. Retrieved from http://psychrights.org/Research/Digest/Science4Sale/EmpiricalEvidenceInTrialsJAMA04.pdf

Chaskin, R. J., Goerge, R. M., Skyles, A., & Guiltinan, S. (2006). Measuring social capital: An exploration in community–research partnership. *Journal of Community Psychology*, *34*, 489–514. doi: 10.1002/jcop.20111

Chernomas,R.(1999). *The social and economic causes of disease*. Manitoba: Canada, Canadian Centre for Policy Alternatives.

Chilisa, B., Bennell P., & Hyde, K. (2001).*The impact of HIV/AIDS on the University of Botswana: Developing a comprehensive strategic response* (Report No. 2). Botswana: University of Botswana.

Cluver, L & Gardner, F. (2007). Risk and protective factors for psychological well-being of children orphaned by AIDS in Cape Town: A qualitative study of children and caregivers' perspectives. *AIDS Care*, *19,* 318-325. Retrieved from http://www.spsw.ox.ac.uk/fileadmin/documents/pdf/Cluver___Gardner__2007__AIDS_Care_pdf.pdf

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112* , 155-159. Retrieved from http://classes.deonandan.com/hss4303/2010/cohen%201992%20sample%20size.pdf

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied Multiple Regression/ Correlation Analysis for the Behavioral Sciences (3rd ed.).* Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Psychology, 94,* 95-120. Retrieved http://onemvweb.com/sources/sources/social_capital.pdf

Cook, K. S. (2000). *Trust in society.* New York, NY: Russell Sage Foundation.

Coombe, C., & Kelly, M. J. (2001). Education as a vehicle for combating HIV/AIDS. *Prospects*, *30, 3,* 1-9. Retrieved from http://portal.unesco.org/education/en/file_download.php/8b101702cb719eb63573e502e05f8a8eprospects119.pdf

Corcoran, J., & Nichols-Casebolt, A. (2004).Ecological framework for assessment and goal formulation*. Child and Adolescent Social Work Journal, 23,* 211-235. doi: 10.1023/B:CASW.0000028453.79719.65

Cornelius, L. J., Okundaye, J. N., & Manning, M. C. (2000). Human Immunodeficiency Syndrome Virus-related risk among African-American females. *Journal of the National Medical Association, 92,* 183-195. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10976175

Diamond, C., Taylor, T. Anton-Culver, H. (2010). Quality of life, characteristics and survival of patients with HIV and lymphoma. *Quality of Life Research, 19,*149–155. doi: 10.1007/s11136-009-9565-0

Dillman, D. A., Smyth J. D., & Christian L. M. (2009). Internet, Mail, and Mixed-Mode Surveys: *The Tailored Design Method (3rd ed.).* New York: John Wiley.

Dolgoff, R. & Feldstein D. (2009). *Understanding social welfare: A search for social justice* (*8th ed.)*. Boston, MA: Allyn & Bacon.

Egger, M., & Smith, G. D. (1998), Bias in location and selection of studies. *British Medical Journal, 316,* 61-66. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2665334/

Egger, M., Zellweger-Zahner, T., Schneider, M., Junker, C., Lengeler, C., & Antes, G. (1997). Language bias in randomized control trials published in English and German. *The Lancet, 350,* 326-329. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9251637

Engel, R. J., & Schutt, R.K. (2005).*The practice of research in social work.* Thousand Oaks, CA: Sage Publications.

Epstein, H. (2007). *The invisible cure: Why are we losing the fight against AIDS?* New York, NY: Pan Books Limited. Retrieved from http://www.ingentaconnect.com/content/routledg/caic/1996/00000008/00000001/art00003

Eriksson, L. E., Nordstrom, G., Berglund, T., Sandstrom, E. (2000).The health-related quality of life in a Swedish sample of HlV-infected persons.*Journal of Advanced Nursing, 32*,1213-1223. Retrieved from http://web.ebscohost.com.proxy-hs.researchport.umd.edu/ehost/folder?sid=bf4dff9d-525e-4159-aeca-45695a991d32%40sessionmgr15&vid=5&hid=7

Farouk, B., I. (2004). Report of the federation process in Ghana (Bulletin No. 6). Cape Town, South Africa: Slum/Shack Dwellers International (SDI). Retrieved from http://www.sdinet.org/bulletins/b6.htm

Fee, E. (2006, September).The WHO response to the HIV/AIDS pandemic. Paper session presented at the meeting of the World Health Organization, Geneva, Switzerland.

Folasire, O. F., Irabor, A. E., & Folasire, A. M. (2012). Quality of life of people living with HIV and AIDS attending the Antiretroviral Clinic, University College Hospital, Nigeria. *African Journal of Primary Health Care and Family Medicine, 4(1)*, 1-8. Retrieved from http://phcfm.org/index.php/phcfm/article/view/294

Frans, D. J. (1993).A scale for measuring social worker empowerment. *Research on Social Work Practice, 3*, 312-328. doi: 10.1177/104973159300300305

Fraser, M. W., Richman, J. M., Galinsky, M. J., & Day, S. H. (2009). Intervention research. New York, NY: Oxford University Press.

Friedland, J., Renwick, R., & Mccoll, M. (1996).Coping and social support as determinants of quality of life in HIV/AIDS.*AIDS Care, 8 (1),* 15-32. doi: 10.1080/09540129650125966

Galobardes, B., Lynch, J. W., & Davey, S. G. (2004). Childhood socioeconomic circumstances and cause-specific mortality in adulthood: Systematic review and interpretation. *Epidemiological Review, 26*, 7–21. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15234944

Ghana AIDS Commission (2006). HIV Sentinel Survey Report. Retrieved fromhttp://data.unaids.org/pub/FactSheet/2008/sa08_gha_en.pdf

Ghana AIDS Commission (2010). HIV Sentinel Survey Report. National AIDS/STI Control Program. Ghana Health Service, Ministry of Health, Accra, Ghana: Author.

Ghana Districts.com (2010). The National Social Protection Strategy (NSPS): Executive Summary. Retrieved from http://www.ghanadistricts.com/home/?_=60&sa=5446

Ghana Ministry of Health (2004a). Legislative Instrument on National Health Insurance, Accra: National Parliament of Ghana Press.

Ghana Ministry of Health (2004b). Guideline for Designing and Implementing District-wide MHOs in Ghana, Accra: Government of Ghana Publishing House.

GhanaWeb (2010).The Netherlands: 1st Phase of NEPAD/Ghana School Feeding Programme takes off in two weeks. Retrieved from http://www.ghanaweb.com/GhanaHomePage/diaspora/photo.day.php?ID=104247

Gibson, R. K. (2001). Elections online: Assessing Internet voting in light of the Arizona Democratic primary.' *Political Science Quarterly*, 116, 561–583. Retrieved from http://www.jstor.org/pss/798221

Gielen, A. C., Fogarty, L., O'Campo, P., Anderson, J., Keller, J., & Faden, R. (2001).Women living with HIV: Disclosure, violence, and social support. *Journal of Urban Health*, 77, 480-491. doi: 10.1007/BF02386755

Gielen, A. C., McDonnell, K. A., Wu, A. W., O'Campo, P., & Faden, R. (2001). Quality of life among women living with HIV: The importance of violence, social support, and self care behaviors. *Social Science and Medicine*, *52*, 315-322. doi: 10.1016/S0277-9536(00)00135-0

Gillespie, S., Greener, R., Whiteside, A., & Whitworth, J. (2007).Investigating the empirical evidence for understanding vulnerability and the associations between poverty, HIV infection and AIDS impact. *AIDS*, *21*, 1–4. Retrieved from http://www.heard.org.za/downloads/investigating-the-empirical-evidence-for-understanding-vulnerability-and-the-associations-between-poverty-hiv-infection-and-aids-impact.pdf#page=6

Gillespie, S., Kadiyala, S., & Greener, R. (2007). Is poverty or wealth driving HIV transmission? *AIDS, 21,* 5–16. doi: 10.1097/01.aids.0000300530.67107.45

Gjesfjeld, C. D., Greeno, C. G. & Kim, K. H. (2008). A Confirmatory Factor Analysis of an abbreviated social support instrument: The MOS-SSS. *Research on Social Work Practice, 18,*231-237.doi: 10.1177/1049731507309830

Global Health Council (2011). Malnutrition Causes Half of Africa's Child Deaths. Retrieved from http://www.globalhealth.org/news/article/5094

Global Issues (2014). Poverty facts and stats. Retrieved from http://www.globalissues.org/article/26/poverty-facts-and-stats

Gyamfi, S., Peprah, P. T., Toboh, L., Amedoe, J. A., Quansah Asare, G. J., Sepah, E.,… Govindasamy, P. (2009). Ghana demographic and health survey 2008. Accra, Ghana: Ghana Statistical Service, Ghana Health Service, and ICF Macro (Calverton, MD).

Haralambos, M., & Holborn, M. (1991).*Sociology: themes and perspectives (3rd ed.).* London, England: Harper Collins Publishers.

Hartzell, J. D., Janke, I. E., &. Weintrob, A. C., (2008). Impact of depression on HIV outcomes in the HAART era. *Journal of Antimicrobial Chemotherapy*, 246–255. doi:10.1093/jac/dkn193

Hasanah, C. I., Zaliha, A. R., &Mahiran, M. (2011).*Quality of Life Research, 20, 91-100.*Factors influencing the quality of life in patients with HIV in Malaysia.doi: 10.1007/s11136-010-9729-y

Healy, K. (2005). *Social work theories in context: Creating frameworks for practice*. Hampshire, NY: Palgrave MacMillan Publishers.

Heyer, J., Stewart, F., & Thorp, R. (1999). Group behaviour and development: Working papers No. 161. Retrieved from http://www.wider.unu.edu/publications/working-papers/previous/en_GB/wp-161/_files/82530858921501417/default/wp161.pdf

Hochschild, A. R., (1975). Disengagement theory: a critique and a proposal. *American Sociological Review, 40,* 553-569. Retrieved from http://www.jstor.org/pss/2094195

Hofrichter, R. (2001). Creating health equity through social justice. (Draft Working Paper).National Association of County and Health Officials Washington, DC.

Jia, H., Uphold, C. R., Wu, S., Reid, K., Findley, K., & Duncan, P. W. (2004). Health-related quality of life among men with HIV infection: Effects of social support, coping, and depression. *AIDS Patient Care and STDs, 18,* 594-603. Retrieved from http://dx.doi.org/10.1089/apc.2004.18.594

Jordaan, W. & Jordaan, J. (1989). *Man in context* (2nd ed.). Johannesburg, South Africa: Lexicon.

Kaplan, B. H., Cassel, J. C., & Gore, S. (1977). Social support and health. Medical *Care, 15,* 47-58. Retrieved from http://www.jstor.org/stable/3763353

Kawachi, I., & Berkman, L. F. (2008). Social ties and mental health. *Journal of Urban Health, 78,* 458-467. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11564849

Kawachi, I., & Kennedy, B. (1997). Health and social cohesion: Why care about income inequality? *British Medical Journal, 314*, 1037-1039. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9112854

Kirmayer, L., Boothroyd, L., Laliberté, A., Simpson, B. L. (1999). Suicide Prevention and Mental Health Promotion in First Nations and Inuit Communities (Rep. No. 9). Montreal: Culture & Mental Health Research Unit, Institute of Community & Family Psychiatry, Sir Mortimer B. Davis-Jewish General Hospital.

Konadu-Agyemang, K. (2001). A survey of housing conditions and characteristics in Accra, an African city. *Habitat International, 25*, 15-35. doi:10.1016/S0197-3975(00)00016-3

Lee, J. A. B. (1997). The empowerment group: The heart of the empowerment approach and an antidote to justice. In J. K. Parry (Ed.), *From prevention to wellness through group work* (pp. 15-32). Binghamton, NY: The Haworth Press, Inc.

Leech, N. L., Barrett, K.C., & Morgan, G. A. (2008) (3rd ed.). SPSS for intermediate statistics: Use and interpretation. New York: Taylor and Francis Group.

Lin, N. (1999). Building a network theory of social capital. *Connections*, *22*, 28-51. Retrieved from citeseerx.ist.psu.edu/viewdoc/download

Lin, N., & Peek M. K. (1999). Social networks and mental health. In A. Horwitz & T. L. Sheid (Eds.). *A handbook for the study of mental health* (pp. 241–58). New York: Cambridge University Press.

Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, 35*, 80–94. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/7560851

Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, 35*, 80–94.

Linn J. G., Poku, K. A., Cain, V. A., Holzapfel, K. M., Crawford, D. F. (1995). Psychosocial outcomes of HIV illness in male and female African American clients. *Social Work Health Care, 21 (3),* 43-60. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8560363

Lombe, M., & Sherraden, M. (2008). Effects of participating in an asset-building intervention on social inclusion. *Journal of Poverty*, *11*, 284-305. doi: 10.1080/10875540802198362

Lynch, J. W., Smith, G. D., Kaplan, G. A., & House, J. S. (2000). Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions. *British Medical Journal, 320,* 1220-1224. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1127589/

Mavandadi, S., Zanjani, F., Ten Have, T. R., & Oslin, D. W. (2009). Psychological well-being among individuals aging with HIV: The value of social relationships. *JAIDS Journal of Acquired Immune Deficiency Syndromes, 51*, 91-98. Retrieved from http://dx.doi.org/10.1097/QAI.0b013e318199069b

MAPI Trust Research (1996).Education Information Dissemination. Retrieved from http://www.mapi-trust.org/services/questionnairelicensing/catalog-questionnaires/116-mos-hiv

Mast, T. C., Kigozi, G., Wabwire-Mangen, F., Black, R., Sewankambo, N., Serwadda, D., Gray, R., ..., Wu, A. W. (2004). Measuring quality of life among HIV infected women using a culturally adapted questionnaire in Rakai district, Uganda. *AIDS CARE,16,* 81-94.doi: 10.1080/09540120310001633994

McDonnell, K., Gielen, A. C., Faden, R., Wu, A., & O'Campo, P. (1997).Health related quality of life among women living with HIV. In National Conference on Women and HIV, Los Angeles, May.

Mensah, J. (ed.) 2006a. Understanding economic reforms in Africa: A tale of seven nations. Basingstoke: Palgrave Macmillan.

Mensah, J., Oppong, J. R., & Schmidt, C. M. (2009).Ghana's National Health Insurance scheme in the context of the health MDGs: An empirical evaluation using Propensity Score Matching. (Ruhr Economic Papers #157). Essen, Germany: Ruhr Economic.

Mignone, J., & O'Neil, J. (2005). Social capital and youth suicide risk factors in First Nations communities. Canadian Journal of Public Health. 1, 51-54. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15686154

Millennium Development Goals Report (2010).Published by the United Nations Department of Economic and Social Affairs (DESA), June 2010.

Ministry of Manpower, Youth, and Employment (2007). LEAP Social Grant Pilot Implementation and Design (Ghana): A summary Report.

Mohanan P., & Kamath, A. (2009). Family support for reducing morbidity and mortality in people with HIV/AIDS. The Cochrane Collaboration Cochrane Reviews. Retrieved from http://www.cochrane.org/reviews/en/ab006046.html.

Monette, D. R., Sullivan, T. J., & DeLong, C. R. (2011). *Applied social research: A tool for the human services (8th ed.).* Belmont, CA: Brooks/Cole Cengage Learning.

MOS-HIV Health Survey Users Manual (n.d.). Retrieved from http://chipts.ucla.edu/assessment/pdf/assessments/MOS- HIV%20Users%20 Manual%20%20Draft.pdf

Mrus, J. M., Williams, P. L., Tsevat, J., Cohn, S. E., & Wu, A. W. (2005). Gender differences in health-related quality of life in patients with HIV/AIDS. *Quality of Life Research, 14,* 479–491. Retrieved from http://www.springerlink.com/content/l61403471x1wl442/

Naparstek, A. J., Biegel, D. E., & Spiro, H. R. (1982). *Neighborhood networks for humane mental health care*. New York, NY: Plenum Press.

Ncama, B. P., McInerney, P. A., Bhengu, B. R., Corless, I. B., Wantland, D. J., Nicholas, P. K., … Davis, S. M. (2008). Social support and medication adherence in HIV disease in KwaZulu-Natal, South Africa. *International Journal of Nursing Studies, 45,* 1757-1763. doi: doi:10.1016/j.ijnurstu.2008.06.006

National Center for Health Statistics, National Study of Family Growth (1995). Retrieved from http://dataarchives.ss.ucla.edu/da_catalog/da_catalog_titleRecord.php?studynumber=H1505V1

Nichols, L. Tchounwou, P. B., Mena, L., & Sarpong, D. (2009). The effects of environmental factors on persons living with HIV/AIDS. *International Journal of Environmental Research and Public Health, 6,* 2041-2054. doi:10.3390/ijerph6072041

Nojomi, M., Anbary, K., Ranjbar, M. (2008). Health-related quality of life in patients with HIV/AIDS. *Archives of Iranian Medicine, 11,* 608–612. Retrieved from http://www.sid.ir/En/ViewPaper.asp?ID=122050&varStr=4;MOULAVI%20NOJOUMI%20MARZIEH,ANBARI%20KH.,RANJBAR%20MITRA;ARCHIVES%20OF%20IRANIAN%20MEDICINE;NOVEMBER%202008;11;6;608;612

Norusis, M. J. (2006). *SPSS 15.0 Guide to Data Analysis*. Upper Saddle River, NJ: Prentice Hall Inc.

Oakes, M. J., & Rossi, P. H. (2003). The measurement of SES in health research: Current practice and steps toward a new approach. *Social Science & Medicine, 56,* 769-784. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12560010

Oppong, J.R. (2001). Structural Adjustment and the health care system. In K. Konadu-Agyemang (Ed.), *IMF and World Bank Sponsored Structural Adjustment Programs in*

Africa: Ghana's Experience, 1983-1999(pp. 357-70). Aldershot: Ashgate.

PEPFAR (2014). Ghana Operational Plan Report FY 2013. Retrieved from http://www.pepfar.gov/documents/organization/222166.pdf

Popham, W. J., Hall, E. A., Tonks, D., Hetrick, M. A., & Grossman, D. (1992). Assessment instrument for measuring student outcomes: Grades 5-7. Retrieved from http://www.cdc.gov/HealthyYouth/publications/hiv_handbook/pdfs/hiv_booklet05.pdf

Progress on Global Access to HIV Antiretroviral Therapy: A Report on “3 by 5” and Beyond. (2006). Retrieved from http://www.who.int/hiv/fullreport_en_highres.pdf

Portes, A., & Landolt, P. (1996). The downside of social capital. *The American Prospect, 22*, 18–21. Retrieved from http://prospect.org/cs/articles?articleId=4943#

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, *24*, 1-24. Retrieved from Pickett, K. E., & Pearl, M. (2001). Multilevel analyses of neighborhood socioeconomic context and health outcomes: A critical review. *Journal of Epidemiological Community*, *55*, 111–122. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1731829/pdf/v055p00111.pdf

Putnam, R.D. (1993). *Making democracy work: Civic traditions in modern Italy*. Cambridge, MA: Harvard University Press.

Putnam, R. D. (1996). Tuning in, tuning out: The strange disappearance of social capital in America. *Political Science and Politics, December 1995*, 664–683. Retrieved from http://www.valdosta.edu/~gamerwin/pa/classes/padm7240/readings/Putnam%20Article.pdf

Putnam, R.D. (2000). *Bowling alone: The collapse and revival of American community.* New York, NY: Simon & Schuster.

Rao, D., Hann, E. A., Cella, D., & Hernandez, L. (2007). The health related quality of life outcomes of English and Spanish speaking persons living with HIV/AIDS from the continental United States and Puerto Rico.

de Renzio, P. (2000). Bigmen and Wantoks: Social capital and group behaviour in Papua New Guinea: Working paper No. 27. Retrieved from http://www.google.com/search?source=ig&hl=en&rlz=1G1GGLQ_ENUS461&=&q=group+behavior+and+social+capital

Research Methods Knowledge Base (2011). Positivism & Post-Positivism. Retrieved fromhttp://www.socialresearchmethods.net/kb/positvsm.php

Revicki, D. A., Osoba, D., Fairclough D., Barofsky, I., Berzon, R., Leidy, N. K., & Rothman M. (2000). Recommendations on health-related quality of life research to support labeling and promotional claims in the United States. *Quality of Life Research*, *9,* 887-900. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11284208

Revicki, D. A., Wu, A. W., & Brown, R. (1995). Change in clinical status, health status, and health utility outcomes in HIV-infected patients. *Medical Care, 33*, AS173-AS182.

Rotheram-Borus, M. J., Stein, J. A. Jiraphongsa, C., Khumtong, S., Lee, S., & Li, L. (2001). Benefits of family and social relationships for Thai parents living with HIV. *Prevention Science, 11*, 298–307. doi 10.1007/s11121-009-0165-6

Rüütel, K., Pisarev, H., Loit, H., & Uusküla, A. (2009). Factors influencing quality of life of people living with HIV in Estonia: a cross-sectional survey. *Journal of the International AIDS Society*, *12*,1-8.doi:10.1186/1758-2652-12-13

Saunders, D. S. & Burgoyne, R. W. (2001). Help-seeking patterns in HIV/AIDS outpatients. *Social Work in Health Care*, *32, 65-80.* Retrieved from*http://www.ncbi.nlm.nih.gov/pubmed/11358273*

Schwartz, C., & Frohner, R. (2005). Contribution of demographic, medical, and social support variables in predicting the mental health dimension of quality of life among people with multiple sclerosis. *Health and Social Work, 30,* 203-212. Retrieved from http://monkeyman.pbworks.com/f/Contribution+of+variables+to+MS.pdf

Scott, J. (2005, May 16). Life at the top in America isn't just better, it's longer. New York Times.

Selman, L.E., Higginson, I.J., Agupio, G., Dinat, N., Downing, J., Gwyther, L., ... Sebuyira, L. M. (2011). Quality of life among patients receiving palliative care in South Africa and Uganda: A multi-centred study. *Health and Quality of Life Outcomes*, *9,* 1-14. Retrieved from http://www.hqlo.com/content/9/1/21

Schafer, J. L. & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7,* 147–177. doi: 10.1037//1082-989X.7.2.147

Sherbourne, C. D., & Stewart, A. L. (1991). The MOS Social Support Survey. *Social Science and Medicine, 32*, 705-714. Retrieved from http://cmcd.sph.umich.edu/assets/files/Repository/Women%20Take%20Pride/The%20MOS%20Social%20Support%20Survey.pdf

Skevington, S. M., Norweg, S., & Standage, M. (2010). Predicting quality of life for people living with HIV: International evidence from seven cultures. *AIDS Care, 22*, 614-622. doi: 10.1080/09540120903311466

Smith, M. Y., Feldman, J., Kelly, P., DeHovitz, J. A., Chirgwin, K., & Minkoff, H. (1996). Health-related quality of life of HIV-infected women: Evidence for the reliability, validity and responsiveness of the Medical Outcomes Study Short Form 20. *Quality of Life Research, 5,* 47-55. doi: 10.1007/bf00435968

Smith, G. D, Hart, C., Blane, D., & Hole, D. (1998). Adverse socioeconomic conditions in childhood and cause specific adult mortality: prospective observational study. *BMJ, 316*, 1631–1635. Retrieved fromhttp://www.ncbi.nlm.nih.gov/pmc/articles/PMC28561/pdf/1631.pdf

Smith, G. D., Hart, C., Watt, G., Hole, D., & Hawthorne, V. (1998). Individual social class, area-based deprivation, cardiovascular disease risk factors, and mortality: the Renfrew and Paisley study. *Journal of Epidemiology and Community Health, 52,*399-405. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1756721/

Solomon et al. (2009). A longitudinal quality-of-life study of HIV-infected persons in South India: The case for comprehensive clinical care and support services. *AIDS Education and Prevention, 21,* 104-112. doi:10.1521/aeap.2009.21.2.104

Sowell, R. L., Seals, B. F., Moneyham, L., Demi, A., Cohen, L., & Brake, S. (1997). Quality of life in HIV-infected women in the Southeastern United States. *AIDS Care, 9*, 501-512. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/713613191

Stevens, J. (2002). *Applied Multivariate Statistics for the Social Sciences (4th ed.).* Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.

Solomon, B. B. (1976). Black empowerment: Social work in oppressed communities. New York: Columbia University Press.

Statistics South Africa (2014). Mid-year population estimates 2010. Retrieved from http://www.statssa.gov.za/publications/P0302/P03022010.pdf

Sun, W., Wu, M., Qu, P., Lu, C., Wang, L. (2013). Quality of life of people living with HIV/AIDS under the new epidemic characteristics in China and the associated factors. *PLOS ONE, 8 (6),* 1-10. Retrieved from www.plosone.org

Szreter, S., & Woolcock (2003). Health by association? Social capital, social theory and the political economy of public health. *International Journal of Epidemiology, 33,* 1–18. doi: 10.1093/ije/dyh013

Tladi, L., S. (2006). Poverty and HIV/AIDS in South Africa: An empirical contribution. *Journal of Social Aspects of HIV/AIDS, 3*, 369-381. Retrieved from http://www.sahara.org.za/index2.php?option=com_docman&task=doc_view&gid=250&Itemid=85

United Nations Development Programme, Ghana (2009). Mortgage schemes in Ghana. Retrieved from http://www.undp-gha.org/news&event.php?id=12

United Nations Development Programme (2014). Human Development Reports. Retrieved from http://hdr.undp.org/en/countries/country_fact_sheets/cty_fs_CUB.html

United Nations Department of Economic and Social Affairs (2010). Report on the World Social Situation 2010 Media Kit: Rethinking Poverty. Retrieved from http://www.un.org/esa/socdev/rwss/2010_media.html

United States Agency for International Development (2011). *NAP+WA Gaining Ground on Networking.* Retrieved from http://www.fhi.org/NR/rdonlyres/e3tu3frfbuviabi4wnzzibcsk3jrnmpouq34qifcejxh5kw2cxz5oasdsqxr2xtwqp3xntstkm357f/SUCCESSSTORYGHANA3enhv.pdf

The United States President's Emergency Plan For AIDS Relief (2014). Targets from Fiscal Year (FY) 2010- FY 2014, 2014). Retrieved from http://www.pepfar.gov/about/138278.htm

University of Twente (2011). *Social Support.* Retrieved from http://www.utwente.nl/cw/theorieenoverzicht/Theory clusters/Health

de Vaus, D. (2002). *Analyzing social science data: 50 key problems in data analysis*. Thousand Oaks, CA: Sage.

Vyavaharkar, M., Moneyham, L., Murdaugh, C., & Tavakoli, A (2012). Factors associated with quality of life among rural women with HIV disease. *AIDS Behavior, 16,* 295-303. doi: 10.1007/s10461-011-9917-y

Virusmyth Homepage (1999). President Mbeki questions AZT. Retrieved from http://www.virusmyth.com/aids/news/rembeki.htm

Vlahov, D., Wientg, D., Moore, J., Flynn, C., Schuman, P., Schoenbaum, E., & Zierler, S. (1998). Violence among women with or at risk for HIV infection. *AIDS and Behavior, 2,* 53-60. doi: 10.1023/a:1022359307814

Waltz, C. F., Strickland, O. L., & Lenz, E. R. (2005).*Measurement in nursing and health research (3rd ed.).* New York: NY, Springer Publishing Company, Inc.

Ware, J E., & Sherbourne, C. D. (1992). The MOS 36-Item Short Form Health Survey (SF-36). I. Conceptual framework and item selection. *Medical Care, 30, 473-483.*

Weinbach, R. W. & Grinnell, Jr, R. M. (2007). *Statistics for social workers* (7th ed.). Boston, MA: Allyn and Bacon.

Whiteside, A. (2002). Poverty and HIV/AIDS in Africa. *Third World Quarterly, 20,* 313-332. Retrieved from http://hmb.utoronto.ca/Old%20Site/HMB303H/weekly_supp/week-08-09/Whiteside_Poverty.pdf

Williams, R. M., Turner, A. P., Hatzakis, P., Chu, S., Rodriquez, A. A., Bowen, j. D., &. Haselkorn, J. K. (2004). Social support among veterans with multiple sclerosis. *Rehabilitation Psychology, 49,* 106–113.doi: 10.1037/0090-5550.49.2.106

Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *World Bank Research Observer,15*, 225-249. Retrieved from http://wbro.oxfordjournals.org/cgi/content/abstract/15/2/225

The World Bank (2009). Poverty Net. Retrieved from http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPA/0,,contentMDK:20040961~isCURL:Y~menuPK:435040~pagePK:148956~piPK:216618~theSitePK:430367,00.html

The World Bank: Working for a World Free of Poverty (2011). How We Classify Countries. Retrieved from http://data.worldbank.org/about/country-classifications

World Education (2006). Situational analysis of vulnerable children in Ghana. Retrieved from http://ghana.worlded.org/Docs/ghana_vulnerability_study_jun06.pdf

World Health Organization’s “Equity Team” working definition. Health and Human Rights and Equity Working Group Draft Glossary. Unpublished, 2005.

World Health Organization Ethical and safety recommendations for researching, documenting, and monitoring sexual violence in emergencies. Geneva: World Health Organization, 2007. Retrieved from http://www.who.int/gender/documents/OMS_Ethics&Safety10Aug07.pdf

World Health Organization (2009).Putting women first: Ethical and safety recommendations for research on domestic violence against women. Geneva: World Health Organization, 2001. Retrieved, from http://www.who.int/gender/documents/vawethics/en/

World Health Organization (2011). Countries: Ghana-Health statistics and health information systems. Retrieved from http://www.who.int/countries/gha/en/

World Vision Ghana (2012). Building a better vision for children. Retrieved from http://www.worldvision.org/content.nsf/learn/world-vision-ghana

Wu, A. W., Revicki, D. A., Jacobson, D., & Malitz, F. E. (1997). Evidence for reliability, validity and usefulness of the medical outcomes study HIV health survey (MOS-HIV). *Quality of Life Research, 6*, 481-493. doi: 10.1023/a:1018451930750

Wu, A. W., Rubin, H. R., Matthews, W. C., Ware, J. E., Brysk, L. M., Hardy, W. D., Bozzette, S. A., Spector, S. A., & Richman, D. D. (1991). A health status questionnaire using 30 items from the Medical Outcomes Study: Preliminary validation in persons with early HIV infection. *Medical Care*, *29*, 786-798. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/1875745

Yen, C. F., Tsai, J. J., Lu, P., Chen, Y., Chen, T., Chen, P., & Chen, T. (2004).Quality of life and its correlates in HIV/AIDS male outpatients receiving highly active antiretroviral therapy in Taiwan. *Psychiatry and Clinical Neurosciences, 58*, 501-506. Retrieved from http://www.ncbi.nlm.nih.gov.proxy-hs.researchport.umd.edu/pubmed/15482581

Yen, I. H, & Syme, S. L. (1999). The social environment and health: a discussion of the epidemiologic literature. *Annual Review of Public Health, 20,* 287–308. doi:10.1146/annurev.publhealth.20.1.287

Yi, M. S., Mrus, J. M., Wade, T. J., Ho, M. L., Hornung, R. W., Cotton, S., Peterman, A. H., . . . Tsevat, J. (2006). Religion, spirituality, and depressive symptoms in patients with HIV/AIDS. *Journal of General Internal Medicine, 21,* S21-S27.doi: 10,1111/j. 1525-1497.2006,00643.x