

GENDER DIFFERENCES IN QUALITY OF LIFE
IN PERSONS INFECTED WITH HIV

BY

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ABSTRACT

INTRODUCTION: With the changing face of HIV into a chronic disease, quality of life research is of importance. Much of the previous research in this area has not included females in the samples. Women with HIV are becoming greater in number and are of increased concern to those involved in HIV surveillance.

PROBLEM: Most of the small amount of data on HIV women's QOL, demonstrates that women have decreased health related quality of life (HRQOL) in comparison to men with HIV. There is no research using the MOS-HIV tool in assessing the gender difference in quality of life with HIV patients.

PURPOSE: The purpose of this study is to provide data using the MOS-HIV tool to assess the presence of HRQOL differences in men and women with HIV.

METHOD AND SAMPLE: A secondary analysis of data collected from a large study conducted in down-state Illinois was used. A stratified random sample (N = 292) of both men and women was selected from the study population. The sample completed MOS-HIV quality of life scale.

RESULTS: Contrary to the review of current literature, the data set did not support a gender difference in quality of life in those infected with HIV.

SIGNIFICANCE: Despite the lack of quality of life difference in gender, healthcare providers must assess each individual's HRQOL. Future research is needed to determine what further influences HRQOL and to better identify the presence or absence of a variance between the sexes.

Gender Differences in Quality of Life

In Persons Infected with HIV

It is estimated that 650,000 to 900,000 Americans are currently living with Human Immunodeficiency Virus (HIV) and the number increases by 40,000 new cases each year. This does not take AIDS (Acquired Immunodeficiency Syndrome) cases into account. The number of AIDS cases most recently reported to the Center for Disease Control (CDC) equals 774, 467 (CDC, 2001). When combined, these figures represent a significant portion of the population.

Evaluation of the CDC's data reveals a changing gender trend in America's HIV cases. While numbers of cases in males continue and demand concern, the percentage of women with HIV is growing rather rapidly in comparison. The CDC has estimated 120,000 to 160,000 females are living with HIV and AIDS in the U.S. Data collected between 1995-1996 shows HIV diagnoses in males decreased by 3%, but increased by 3% in women (CDC, 2001). In 1992, 14% of those living with AIDS were women. The percentage jumped to 20% in 1998, thus reflecting the shift in populations becoming infected by the disease. From the onset of the disease to 1995, the number of women with AIDS jumped by 63% (CDC, 2001).

African American and Hispanic women represent the largest number of HIV infected females. These two groups of women combined account for less than one quarter of the United States population, yet as of 1999, they constitute greater than three quarters (77%) of the AIDS cases in women in this country. HIV/AIDS has become a leading cause of death in women aged 25-44 years. Transmission in this group is largely attributed to having sex with an intravenous drug user (IDU); two separate risk factors of

IDU and heterosexual contact (<http://www.cdc.gov/hiv/stats/hasr1202/fig3.htm>,
<http://www.cdc.gov/hiv/pubs/facts/women.htm>.)

Large amounts of money have been directed towards the study and treatment of this disease annually. Treatment is quite expensive, forcing many victims to search for assistance. Because HIV/AIDS affects many aspects of an individual, treatment is multifaceted, requiring a multidisciplinary approach. Nurses, dieticians, multiple physicians, pharmacists, hospital staff, social workers, and physical therapy can all be involved in the regime designed for one HIV infected individual. The toll that HIV often takes on the health care delivery system is exponential (Riedinger et al, 2001).

Dealing with HIV is not only a drain on health care delivery systems; it also affects the infected person's quality of life. Considering the discomfort associated with the disease's progression, the social impact of the diagnosis, the emotional consequences of dealing with the diagnosis and related stigma, and the economic hardships faced by many, HIV takes its toll on its victims' quality of life as well (Riedinger et al, 2001).

Because of the number of persons currently affected, the alarming rate of cases each year, and the enormous burden this disease places on our health care system, survival and quality of life, treatment of HIV is a relevant health care issue. If one of the goals of health care is to improve quality of life (QOL), then it is important to understand not only how HIV affects QOL, but also differences of QOL between HIV positive men and women (Riedinger et al, 2001).

HIV has become a chronic condition, requiring changes from previous approaches to the disease, both in research and clinical settings (Palella et al, 1998). There are very little quantitative data comparing men and women with HIV in terms of quality of life

available. The purpose of this study is to explore gender differences in the quality of life of HIV positive individuals as measured by the Medical Outcomes HIV Study instrument.

Review of the Literature

Behavioral Model of Health Services

The current study uses Andersen's conceptual framework entitled, Behavioral Model of Health Services (Appendix A) as a guide. Although initially developed to assess families' use of health services, it has been expanded through the years and today is used to assist in understanding and developing health policies. The framework consists of four categories: environment, population characteristics, health behavior, and outcomes (Andersen, 1995). Population characteristics and outcomes, specifically gender and quality of life will be examined in this paper. The goal is to identify a possible relationship between gender and quality of life in persons who are HIV positive.

HIV Research

HIV has evolved from a relatively rapidly progressing terminal disease into an often times manageable chronic disease. Despite expanding HIV prevalence in women and the ever-present prevalence of HIV positive males, HIV disease morbidity and mortality is decreasing. This decrease is mostly attributed to the antiretroviral medications developed in the last decade and now used to treat the illness (Aversa, Kimberlin, & Segal, 1998; Palella, 1998; Wilson et al, 1997). Although the success of the antiretrovirals in prolonging patients' lives is positive, often living with HIV disease itself is not. This disease is accompanied by a number of stressors including management of treatment regimens, enduring physical symptoms from the medication and the disease

itself, and psychosocial stressors of dealing with diagnosis and impending death.

According to Wilson et al., research has found the combination of stressors all decrease quality of life in HIV patients.

Quality of Life

What is quality of life and what determines it? Quality of life (QOL) in clinical settings may be defined as condition specific symptoms, body discomfort, social and role functioning, overall perception of health, cognitive status, and general well-being (Cleary et al, 1993).

Another resource describes quality of life as being limited to that which is directly affected by the health status of the population investigated. QOL “extends beyond conventional assessments of health and is many times termed health related quality of life” (Franchi & Wenzel, 1998, p. 20).

Many studies do use the terms health related quality of life (HRQOL) interchangeably with quality of life (QOL). HRQOL has been known to “refer to the physical, psychological, and social domains of health, seen as distinct areas that are influenced by a person’s experiences, beliefs, expectations, and perceptions” (Patrick, Bush, & Chen, 1973). It has also been defined as how well people are able to perform activities of daily living and their well-being (how they feel about their lives) (Lorenz et al, 2001; Sherbourne et al, 2000; Cunningham et al, 1995; Hays et al, 1998). For purposes of consistency, HRQOL will also be used in this paper to refer to quality of life and will be thought of simply as encompassing individuals’ capacity to function and their well-being.

Quality of Life Assessment – Tools

Health related quality of life and HIV research is in abundance. What determines HIV positive individuals' HRQOL? The large number of research studies available identify different determinants. Obviously, anything that disrupts an individual's functioning and sense of well-being will impact HRQOL. Some researchers claim emotional status and cognitive and functional capacity (Osowiecki et al, 2000) and some claim ability to perform social roles (Crystal et al, 2000) and yet some claim physical symptoms are most responsible (Cunningham et al, 1998). As a result of the varying perceptions on what exactly encompasses HRQOL, there are a number of tools to measure QOL.

Tools to measure quality of life have also surfaced in response to the recent interest in QOL research. Researchers differ in their perception of the components related to QOL; therefore, tools measure QOL differently.

The three most prominent HIV-specific quality of life instruments in the current circulating professional literature are (a) The Medical Outcomes Study – HIV (MOS-HIV), (b) Multidimensional Quality of Life – HIV (MQOL-HIV), and (c) HIV Overview of Problems-Evaluation System (HOPES). A large body of literature examining the psychometrics of these tools exists (Wu et al, 1997; Revicki, Sorensen, & Wu, 1998; Badia et al, 1999; Badia et al, 2000; O'Leary et al, 1998).

The MOS-HIV is a tool specific for persons living with HIV based upon a well known validated, pre-existing QOL tool. It will be discussed at length following. HOPES determines QOL based upon five summary scales including physical, psychosocial, medical interaction, sexual and significant others/partners domain. The HOPES was

adapted from a QOL tool first validated on cancer patients (Schag, Ganz, Kahn, Petersen, & 1992). According to Ganz et al. (1993) and Schag, Ganz, Kahn, and Peterson (1992), the HOPES instrument has been shown to be both reliable and valid with a stable factor structure. The MQOL-HIV asks 40 questions which assess mental health, physical health, physical functioning, financial status, partner intimacy, sexual functioning and medical care. Studies have determined this tool is adequately reliable, valid, and sensitive to changes in QOL over time (Smith et al, 1997; Herdman, Fox-Rushby, Badia et al, 2000, & Badia, 1997), however Badia et al. (2000) have claimed that the MOS-HIV is more sensitive than the MQOL-HIV when used in clinical research.

While each of the mentioned tools has its use, the MOS-HIV is very well known secondary to its well-known parent, the MOS tool. The MOS-HIV has demonstrated both validity and reliability (Franchi & Wenzel, 1997; Wu, Hays, Kelly, Malitz, Bozzette, 1997; Wu, Revicki, Jacobson, & Malitz, 1997; Revicki, Sorensen, & Wu, 1998). When compared to the other QOL tools, the MOS-HIV performs slightly better (Badia et al, 1999). Because many are familiar with this tool and because of its documented success, its usage here will allow for greater understanding of the presented material.

HIV and Quality of Life Research

HRQOL in the work done by Swindells et al. (1999) was said to be determined by HIV persons' satisfaction with social support, degree of hopelessness, and coping style. Those with increased social support, decreased hopelessness, and effective coping had increased QOL (Swindells et al, 1999).

Many studies have demonstrated that as HIV symptoms develop or as the disease stage progresses, the HRQOL for the individual decreases. (Wu, Revicki, Jacobsen &

Malitz, 1997; Lorenz et al, 2001; Cleary et al, 1993; Lubeck & Fries, 1993; Revicki, Wu, Murray, 1995; Bing et al, 2000; Hays et al, 2000; Cederfjall et al, 2001; Cunningham et al, 1998; Sousa et al, 1999). Constitutional symptoms are expected in the course of HIV illness. Very few HIV patients do not complain of symptoms such as fevers, night sweats, myalgias, fatigue, anorexia, gastrointestinal discomforts, or weight loss. It has been documented that the increase in number and in the degree of severity increases the negative impact on HRQOL in HIV infected individuals (Cunningham et al, 1998; Wu et al, 1990; Wachtel et al, 1992; Lubeck & Fries, 1993; Revicki, Wu & Murray, 1995; O'Keefe & Woods, 1996; Franchi & Wenzel, 1998; Bing et al, 2000; Hays et al, 2000; Lorenz et al, 2001).

Age of those infected has been demonstrated to affect HRQOL as well. The study conducted in Sweden by Cederfjall et al (2001) reported that men exceeded women's level of HRQOL despite being older than the women. In analyzing the data using a multivariate analysis, the investigators found that older men rate their QOL lower than younger men. The authors speculated that aged HIV infected individuals were more susceptible to social isolation and have decreased access to support services and care. It was thought perhaps embarrassment secondary to the stigma of infection kept older patients from seeking beneficial services, resulting in overall decreased quality of life (Cederfjall et al, 2001).

Cunningham and colleagues (1995) conducted research in which they examined the difference in QOL between two different cohorts. One group was comprised of well-to-do HIV positive white men from multicenter clinics. The other cohort, referred to as the nonclinical group, included low-income, ethnically diverse men with HIV. Those in

the non-clinical group demonstrated decreased HRQOL thought to be due to the increased education and access to healthcare of the wealthier group (Cunningham et al, 1995).

Gender and HIV

To date, much less data is available concerning women with HIV as compared to the data available on men with HIV. This lack of female data may be due to the much greater prevalence in the male population at the epidemic's beginning (Cederfjall et al, 2001). Gender discrimination has existed with this disease since the onset. The discrimination against women with HIV was evidenced when women's symptoms and opportunistic infections were not given the status of AIDS because their presentation differed from that of affected men (Bunting, 1996). Now with the increasing number of HIV infected women, one would expect the research to evidence the transition. However, despite the growing number of cases in women, most recent researchers focusing on HIV have included only small samples of women, if any (Bunting, 1996). The insufficient number of women subjects makes it difficult to characterize and understand the disease in HIV positive women and therefore quite difficult to compare females with HIV to males with HIV (Riedinger et al, 2001; Cunningham et al, 1995). In conclusion, women with HIV are largely underrepresented in the HIV research literature (Bunting, 1996).

Gender and HIV HRQOL Research

Most studies that combine HIV and HRQOL are composed primarily of male, white subjects. Very few make mention of women, disregarding their growing numbers. Studies that do make mention of the female cohort, seem to agree that HIV females tend to have decreased HRQOL measures regardless of the instrument used (Cederfjall et al,

2001; O'Keefe & Wood, 1996). One study demonstrated the opposite findings however, stating HIV positive women possessed higher QOL than infected men (Holzemer et al, 1998).

Holzemer et al (1998) in attempts to elicit data for validation of the Living with HIV Scale, concluded that women demonstrated higher total scores, thus meaning, HIV infected women had an increased positive HRQOL than HIV positive males. Demographic breakdown of the sample was 65.8% male (n = 123), 31% female (n = 58), 3.2% transgender (n = 6). Interesting to note, those subjects reported as transgender were categorized as females, as they were all living as females. All subjects were administered the Living with HIV Scale designed to elicit HRQOL, with the women possessing a higher QOL than HIV positive men (Holzemer et al, 1998).

One study retrieved investigated the presence of a gender difference in HIV patients, yet it was conducted without the use of a validated, reliable tool. This study from Sweden revealed that women with HIV when compared to men with HIV possessed lower HRQOL scores, although women in this sample had less advanced HIV disease than the male group. Men were older, had more advanced disease, and their drug regimes required 3 drug antiretroviral agents. In spite of the identified differences between the male and female populations under investigation, men exhibited greater well being, increased social support, and a more solid sense of coherence than the women.

Explanation for the difference, according to the authors, could be that homosexual men, being the first infected, became very politically active regarding HIV issues and involved in their treatment. Because of this, men were more open about their condition, received more social visibility and as a result, received strong social support. Cederfjall et

al (2001) hypothesized that women with HIV do not possess the support given to HIV positive men and thus have decreased HRQOL. Perhaps women also blame themselves for not protecting themselves from HIV contraction, causing feelings of guilt that could also account for the discrepancy by gender HRQOL (Cederfjall et al, 2001). More research on differences in quality of life by gender is needed to more fully understand the phenomenon.

Lastly, a study conducted in South Africa addressed a gender difference in the HRQOL in HIV patients. Women and men with HIV were assessed using eight different QOL scales. In addition to assessing gender, differences in race were explored. Findings concluded black females possessed the lowest scores on all scales except physical functioning (O'Keefe & Wood, 1996).

Does gender impact QOL? Uncertainty demonstrated by a review of the current literature supports further investigation. With more data on the possible impact of gender in HIV individuals and QOL, the special needs of those affected would be more visible. Advancements of knowledge in the area of HIV and QOL can only benefit this population. This study is designed to provide further knowledge by answering the following research questions.

1. Are there relationships among race/ethnicity, client partner status, and gender in QOL?
2. Does QOL vary by gender?

Methods

This study is a secondary analysis of data collected from a sample of persons living with HIV/AIDS in Illinois excluding Cook County. Approval for the original study

and the secondary analysis was received from the University of Illinois At Chicago's Institutional Review Boards (IRBs) in Peoria and Chicago (Appendix B). Data entry was conducted using SPSS (Version 10.0) (Baldwin et al, 2001).

Statistics are unavailable on the total number of persons living with HIV/AIDS. The most recent data reports 2111 individuals diagnosed with AIDS and 1114 individuals diagnosed with HIV in the case files of the nine HIV/AIDS Care Consortia. Of those individuals, approximately 1/3 of them are female (Baldwin et al, 2001).

Description of Original Study Methods

Sample Characteristics

Clients receiving Title II Ryan White assistance were randomly selected from the list of all such individuals served by the consortia areas and asked by their case managers to participate in the study. The total number of subjects numbered 292; however, not all data was available for all subjects.

Originally, the sampling plan was to randomly select clients from each of the nine Consortia areas. Because the sample retrieved was a stratified random sample, each area was ensured representation. The number of clients to be selected for the sample was based on the percent of the total HIV+ Consortia clients in each region (excluding Cook County) reported in 1998 by IDPH. With the above criteria, the number of clients to be included totaled 321, a number that proved to be statistically representative.

Unfortunately, problems arose that did not allow the inclusion of the 321 clients suggested by the original sampling plan. The original sampling plan and final sample of selected clients is presented in Table 3. The number of HIV cases per region according to the IDPH for 1998, is also included (Baldwin et al, 2001).

Gender. The sample is approximately 75% male (Table 4). There are significant differences in age, race, and at risk behavior between men and women in the sample (Baldwin et al, 2001).

Race/Ethnicity. Most of those infected in downstate Illinois are White. A significant proportion (36%) however, is Non-White (Table 5). Data on race was determined to be either white or non-white for purposes of this study.

Age. Fifty percent of the sample was younger than 40 years of age. Very few individuals (13%) were 50 years old and older. Women were younger than their male counterparts. Less than half of the infected men were less than 40 years old, whereas, two-thirds of the infected women were less than 40 years of age (Baldwin et al, 2002). (See Table 5).

Education. Education was broken down into categories of less than 8 years, 8-12 years and 13+ years of schooling. The educational attainment achieved by the subjects is not surprising in view of the great extent of those living in poverty. One fourth of the subjects stated they had received less than an eighth grade education. The data shows that 39% of those studied completed high school and received some advanced education, however only 4% of the 39% ever graduated with a degree from their advanced training (Table 5).

Client Partner Status. The data revealed that the majority of subjects, 65%, were single or were without a partner, and 35% were with a partner (Baldwin et al, 2001). (See Table 5).

Income. Greater than one half of those studied live at means below the poverty level. Approximately 86% of subjects survive at or below 200% of poverty (Table 6).

Gender and race/ethnicity were not found to significantly impact poverty level.

Data Collection

Quality of life information was gathered by mailing packets including client surveys to clients' case managers. The case managers were responsible for ensuring each client received the quality of life instrument and providing instructions for completing and returning the survey. Confidentiality was assured to each participant. Each client was assigned a number that could not be linked to the client in any way.

Instrumentation

Quality of life data was gathered using the Medical Outcomes Study HIV Health Survey (MOS-HIV). The MOS-HIV is a brief, comprehensive, tool that can be self administered (O'Leary et al, 1998) and used to measure health related quality of life in those infected with HIV/AIDS. It has become the most widely used instrument for determining health related quality of life in the HIV population (Badia et al, 1999). Because of the tool's recognition as the gold standard for QOL measurements, individuals' familiarity with it, and its demonstrated reliability and validity, it was chosen for this analysis.

There are a total of 35 questions on the tool referring to the individuals' experiences during the previous two weeks (Badia et al, 2000), each covering one of ten dimensions including health perceptions, pain, physical status, role, social and cognitive functioning, mental health, level of energy, health distress and quality of life. Scoring ranges from 0-100 for each subscale. Higher scores signify greater functioning in the

specific dimension and therefore better or increased QOL (O'Leary et al, 1998; Badia et al, 2000). Scores from the MOS-HIV are calculated from each separate subscale. There is not a cumulative score calculated. The MOS-HIV has been demonstrated to be internally consistent, able to correlate with current measures of health, able to discriminate between groups, predict outcomes, and be sensitive to change over time (Wu, Revicki, Jacobson, & Malitz, 1997).

Internal consistency reliability of the tool is evidenced with Cronbach's alpha coefficients for the scores ranging from 0.90 to 0.94 in early evaluations. As for validity, the MOS-HIV's scores are significantly similar to other instruments assessing health status and QOL. Scores have repeatedly demonstrated the validity of the tool with symptomatic HIV positive individuals and those with AIDS scoring similarly. Those who are asymptomatic have continued to score higher on the MOS-HIV compared to those with symptoms (Wu, Revicki, Jacobson, & Malitz, 1997).

Results

Descriptive statistics are presented below with results by research question. Using SPSS Version 10.0, analyses were run for each question. Type of analysis was determined based upon the level of measurement of the independent and dependent variables within each question. Question #1 required Pearson's r Correlations to determine its desired results. Based upon the level of measurement for question #2, a t-test analysis was appropriate.

In reference to Tables 7 and 8, the results of the study can be better described. Table 7 refers to the clients' actual scores on the MOS-HIV. Overall QOL subscale scores in both men and women were fairly low, a finding supported by current literature

(Cederfjall et al, 2001; O’Keefe & Wood, 1996). Those subscales with a mean not exceeding 50 are the general health, role function, pain, vitality, and health distress subscales, indicating lower QOL.

The correlation matrix, Table 8 demonstrates the generally weak correlations between the variables under investigation. Race/ethnicity, age, and partner status were correlated to determine the absence or presence of a relationship with any of the MOS-HIV subscales. As evidenced by the table, the results that are considered significant demonstrate only a low correlation, with coefficients not exceeding 0.26. Those with the strongest correlations include race/ethnicity and health transition, .26 ($p < .01$), age and physical function, -.22 ($p < .01$), age and general health, -.18 ($p < .05$), role function and age, -.17 ($p < .05$), and pain and race/ethnicity at .16 ($p < .05$).

In effort to answer research Question #2, “Does QOL vary by gender?” a t-test was run on the MOS-HIV subscales and gender to determine if a gender difference existed. As seen in Table 9, all scores calculated are non-significant. A quality of life difference by gender is not evidenced by this data set.

Discussion

In conclusion, this study does not support a gender difference in QOL in HIV positive individuals in Illinois. Rationale for the absence of a gender difference could lie in the unequal representation of sexes. The number of males far outweighs the females in the study. An additional explanation is perhaps the conditions of the subjects are not conducive to high QOL ratings. As presented above in the description of the sample, many are living in poverty, have incomplete and therefore insufficient educations, and are living without a partner or significant other, possibly indicating lack of social support. All

of the above dramatically decreases an individual's quality of life regardless of HIV/AIDS status or gender (Swindells et al, 1999).

The inclusion of Andersen's (1996) Health Behavior Model allowed for a conceptual framework from which to follow. As illustrated in Appendix A, population characteristics, specifically gender, and the resulting outcomes, specifically quality of life, are interconnected in the sense that they share the capacity to influence each other. According to this data set, it appears that the predisposing characteristic of gender does not influence the outcome of quality of life, as could be predicted by Andersen's Behavioral Model of Health Services Use (1996).

Findings from this data set differ from the majority found in the review of literature which stated that men and women infected with HIV do differ in terms of QOL. There were, however, some small correlations found between age, race/ethnicity and quality of life which were consistent with the review of literature findings. Previous studies evidenced relationships stating that as age progresses, QOL decreases and that race appears to potentially affect QOL scores (Cederfjall et al, 2001; O'Keefe & Wood, 1996; Cunningham et al, 1995). Although this study does not support the literature in regards to a gender difference in quality of life, it is of significance. The question as to why the results differ requires answering. Perhaps there is a confounder that better determines QOL other than gender.

In comparison to the current literature, the gender representation of this study is quite similar. Women comprised only a fraction of the sample sizes in each study examined (Cederfjall et al, 2001; O'Keefe & Wood, 1996; Holzemer et al, 1998). The

lack of a gender difference evidenced by this data set therefore can not be related solely to the under-representation of women.

Age was also found to be a variable in QOL studies. Women were typically younger than men, yet exhibited lower QOL scores (Cederfjall et al, 2001; O'Keefe & Wood, 1996). In this study, women were also younger than the male sample however, a variance in QOL was not evidenced, reasoning unknown.

It must be also noted that this study is the only study that uses the MOS-HIV to determine a gender difference in QOL. Other studies used a combination of more unfamiliar tools to measure QOL such as the Living with HIV scale (Holzemer et al, 1998), self report instruments, the health index, HIV symptom scale, the well-being scale, the sense of coherence scale and the Interview Schedule for Social Interaction (Cederfjall et al, 2001). Perhaps the difference in tools used could be responsible for the study's findings.

Limitations of the study include the lack of data generalizability. The sample was selected from one state and therefore is not adequate to apply to the general population. Too small of a sample size serves as another limitation. The validity of the data is compromised due to the inadequate number of participants, specifically female. Because this study is a secondary analysis, could also be interpreted as a limitation. The researcher was limited to studying only the available data and related variables

In caring for the HIV/AIDS population, holistic care is necessitated. Healthcare providers must continue to assess each patient's case and take into account all aspects of his/her QOL, regardless of gender. The assessment of each individual's quality of life is paramount. Findings from this study should alert those caring for HIV/AIDS clients that

men may not have a better quality of life than their female counterparts. Assumption on levels of QOL should not be made based upon gender.

Due to differences in findings, the continuation of investigation is strongly suggested. Further research is needed in the area of QOL and gender to better understand the relationship or lack thereof. Suggestion for future research would be to control for variables such as age, in attempts to elicit a difference. More data on the subject will assist in better understanding this population's lived experience. A better understanding will provide for more accurate care. The combination of further research, a heightened sensitivity to QOL in those infected with HIV/AIDS, despite of gender, and a determination to improve this population's existence, are all recommendations based upon these findings.

HIV Population in Participating Consortia

Table 1

HIV Infection Reports in the Nine Consortia by Age

Age Group	HIV
0 – 12	17
13 – 19	32
20 – 29	309
30 – 39	441
40 – 49	245
Over 49	56
Unknown	14
Total	1114

Source: IDPH, HIV/AIDS Surveillance Unit Data, 2001 (as cited in Baldwin et al, 2001).

Table 2

HIV Infection Reports and AIDS Cases by Gender

Gender	HIV	AIDS
Male	832	1580
Female	282	531
Total	1114	2111

Source: IDPH, HIV/AIDS Surveillance Unit Data, 2001 (as cited in Baldwin et al, 2001).

Table 3

Sampling Plan and Final Sample

Consortium Regions	Original Sampling Plan (Rev. 10/18/00)			Final Sample Collected	
	# HIV Cases*	% of Orig. Sampling Plan	# of Clients	% of Final Sample	# of Clients
Champaign	85	4%	13	1.0%	3
Effingham	56	3%	10	4.1%	12
Jackson	74	4%	13	5.1%	15
Peoria	269	14%	45	18.5%	54
Rock Island	92	5%	16	4.5%	13
Sangamon	268	14%	45	16.4%	48
St. Clair	330	17%	54	14.7%	43
Winnebago	280	14%	45	11.3%	33
Will	482	25%	80	24.3%	71
	1936	100%	321	100%	292

* Number of HIV Cases, excluding Cook County, from IDPH, 1998 Consortia data.

Source: Baldwin et al, 2001.

Table 4

Title II Clients by Gender

Male	76%
Female	24%
Total	100%

Source: Baldwin et al, 2001

Table 5

Demographic Percentages

Gender	%
Male	76%
Female	24%
Race	
White	64%
Non-White	36%
Age	
18-29	11%
30-39	37%
40-49	39%
50+	13%
Education	
<8 years	23%
8-12 years	38%
13+years	39%
Client Partner Status	
With	35%
Without	65%

Source: Baldwin et al, 2001

Table 6

Percent Living in Poverty

Poverty Level	Percent
$\leq 100\%$	55%
101-200%	31%
$> 200\%$	14%

Source: Baldwin et al, 2001

Table 7

MOS-HIV Subscale Means and Standard Deviations

	MosHIV gen health	MosHIV physical function	MosHIV role function	MosHIV social function	MosHIV cognitive function	MosHIV pain	MosHIV mental health	MosHIV vitality	MosHIV health distress	MosHIV quality of life	MosHIV health transition
N	281	283	281	283	280	283	282	281	284	277	280
Mean	43.35	64.49	49.11	71.52	67.82	38.81	62.62	16.51	21.02	61.28	57.23
Std. Deviation	25.42	28.62	45.41	28.56	27.35	16.00	23.06	.75	.94	22.85	23.07

Table 8

Correlation Matrix: Relationships between Demographics and QOL Variables

Variable	Gender	Age	Partner status	Race/ ethnicity
Gender	-			
Age	-.18*	-		
Partner status	.11	-.09	-	
Race/ ethnicity	.19*	-.02	-.07	-
MosHIV gen health	-.01	-.18*	.05	-.05
MosHIV physical function	.03	-.22**	-.04	.02
MosHIV role function	.04	-.17*	.06	.07
MosHIV social function	-.02	-.14*	.10	.00
MosHIV cognitive function	-.01	.06	-.00	-.04
MosHIV pain	-.01	-.08	-.04	.16*
MosHIV mental health	-.05	.07	.14*	-.04
MosHIV vitality	-.08	.01	.02	.12
MosHIV health distress	-.04	-.02	.08	-.10
MosHIV quality of life	-.11	.04	.04	-.06
MosHIV health transition	.07	.01	.00	.26**

*p < .05. **p < .01.

Table 9

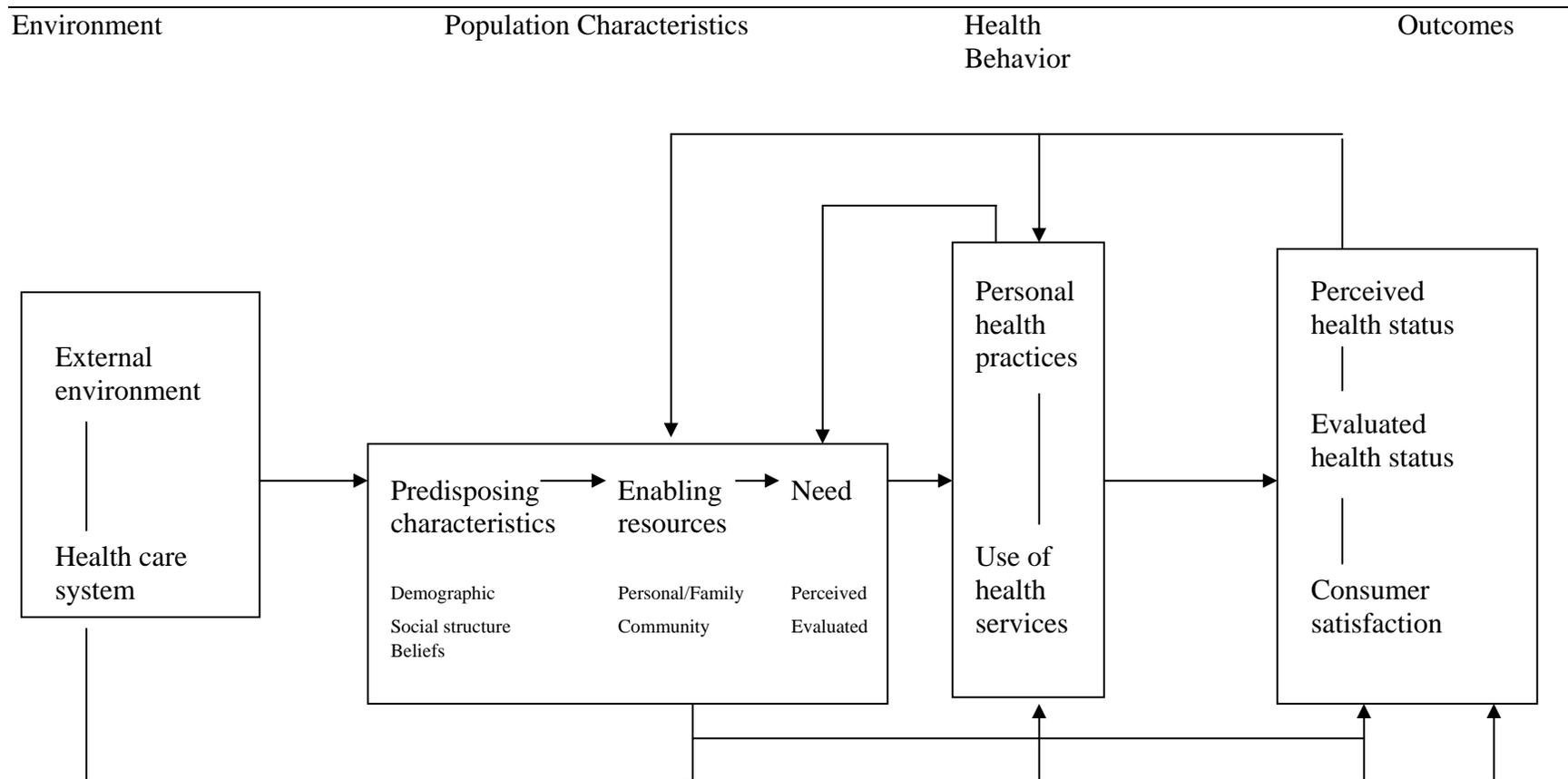
Quality of Life: Difference by Gender (T-test)

MosHIV Subscales		Male	Female	Total	t	Sig.
MosHIV gen health	Mean	44.51	43.89	44.36	.03	.87
	Std Dev.	25.88	24.57	25.53		
MosHIV physical function	Mean	65.08	66.80	65.49	.17	.68
	Std Dev.	29.66	24.84	28.56		
MosHIV role scale	Mean	50.25	53.91	51.13	.32	.58
	Std Dev.	45.85	43.91	45.34		
MosHIV social function	Mean	72.88	71.75	72.61	.08	.78
	Std Dev.	28.18	29.10	28.35		
MosHIV cognitive function	Mean	68.18	67.74	68.08	.01	.91
	Std Dev.	26.10	28.84	27.38		
MosHIV pain	Mean	39.40	39.06	39.32	.02	.89
	Std Dev.	16.91	17.36	16.99		
MosHIV mental health	Mean	63.78	61.21	63.18	.60	.44
	Std Dev.	22.77	24.01	23.05		
MosHIV vitality	Mean	17.10	15.74	16.84	1.69	.20
	Std Dev.	7.62	7.23	7.51		
MosHIV health distress	Mean	21.51	20.66	21.30	.40	.53
	Std Dev.	9.28	10.08	9.47		
MosHIV quality of life	Mean	63.75	58.07	62.41	3.07	.08
	Std Dev.	22.24	22.53	22.40		
MosHIV health transition	Mean	57.18	60.71	58.02	1.13	.29
	Std Dev.	21.98	26.07	23.02		

Note: All t-test scores non-significant, with $p < .05$

APPENDIX A

A BEHAVIORAL MODEL OF HEALTH SERVICES USE.



Andersen, R.M. & Davidson, P.L. (1996). Measuring Access and Trends. In: *Changing the U.S. Health Care System*. Andersen, R.M., Rice, T.H., & Kominski, G.F. (Eds). San Francisco: Jossey-Bass Publishers, p. 14. Used with permission

APPENDIX B

IRB Approval for Exemption

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