Predictors of Body Fat Redistribution in Persons Living with HIV/AIDS

Kenn M. Kirksey, RN, PhD, ACNS-BC
Seton Healthcare Family Center for Nursing Research

Elizabeth F. Sefcik, RN, PhD, GNP
Texas A&M University – Corpus Christi College of Nursing & Health Sciences

Mary Jane Hamilton, RN, PhD
Texas A&M University – Corpus Christi College of Nursing & Health Sciences

Adama Brown, PhD
The University of Texas at Austin School of Nursing
Our Research Team gratefully acknowledges the numerous contributions from members of the International Nursing Network for HIV/AIDS Research

(nurse scientists from Colombia, Norway, Puerto Rico, Taiwan, and 14 sites in the United States who served as site principal investigators on the parent study)
Evolution of HIV Disease
- July 5, 1981
- Mid 1990s; Newer Antiretroviral Therapies
- Rapid progression to AIDS; death

Symptom Experiences Over 30 Years
- Kaposi’s Sarcoma; PCP
- Present – Chronic, more manageable
- Symptoms remain pervasive
Frequently Reported Symptoms

Anxiety
Depression
Diarrhea
Fatigue
Nausea
Neuropathy
Anthropomorphic Changes
- Facial Lipoatrophy
- Extremity Wasting
- Protuberant Abdomen
- Buffalo Hump (Often seen in Cushing’s)

Metabolic Changes
- Elevated Lipid Levels
- Elevated Glucose Levels
Physical Impact
- Increased illness perception (by self and others)
- Reduced adherence to medication regimen (CD4, Viral Load)

Emotional/Psychological Impact
- Self-Image Disruption
- Body Image Dysmorphia
- Stigmatization
- Diminished Health-Related Quality of Life
Methodology

Parent study
- randomized controlled trial; tested efficacy of self-care symptom management manual

Data collection time points (body fat changes)
- baseline and at 2 months

Sites
- Corpus Christi, Harlingen & Houston, Texas
Study Variables

- Sociodemographic Attributes
- Objective Indicators and Perceived Body Fat Changes
- Illness Perception
- Stigma
- Health-Related Quality of Life
**N** = 190 (187 with lipodystrophic sx)

**Age:** M = 42.2; SD = 9.0; Range = 20-70 years

**Gender:**
- Male = 122 (64.2%)
- Female = 66 (34.7%)
- Transgender = 2 (1.1%)

**Ethnicity:**
- Anglo = 28 (14.7%)
- African American = 72 (37.9%)
- Hispanic/Latino = 87 (45.8%)
- Other = 3 (1.6%)
Sociodemographic Findings - continued

<table>
<thead>
<tr>
<th>Education</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Graduate or Higher</td>
<td>137</td>
<td>72.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough</td>
<td>45</td>
<td>23.7</td>
</tr>
<tr>
<td>Barely adequate</td>
<td>98</td>
<td>51.6</td>
</tr>
<tr>
<td>Totally inadequate</td>
<td>47</td>
<td>24.7</td>
</tr>
</tbody>
</table>
Sociodemographic Findings - continued

<table>
<thead>
<tr>
<th>Self-Perception of Status</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Condition</td>
<td>6.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Psychological Condition</td>
<td>6.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Social Support</td>
<td>6.9</td>
<td>3.0</td>
</tr>
</tbody>
</table>
Instruments

- HIV/AIDS Targeted Quality of Life (HAT-QoL) – 34-item instrument (overall function, life satisfaction, health worries, financial worries, medication worries, HIV mastery, disclosure worries, provider trust, sexual function); Cronbach’s $\alpha = 0.86$

- Berger Perceived Stigma Scale (PSS) – 40-item scale (personalized stigma, disclosure concerns, negative self-image, concern with public attitudes); Cronbach’s $\alpha = 0.96$
Instruments

- Assessment of Body Changes and Distress (ABCD) – three-part self-report scale
  1) Overall, how satisfied are you with how your body looks right now?
  2) 18 items (e.g., “made me upset that people may think I am sick”)
  3) Specifically related to taking HIV medications in the context of body image

- Investigator-Designed Sociodemographic Questionnaire
Correlates of Lipodystrophy

- P < 0.05
- Illness perception (r = -0.40)
- Stigma (r = -0.33)
- Quality of life (r = 0.32)
- Self-reported objective indicators did not correlate significantly with perceived body fat changes
Predictors of Lipodystrophy

- Adjusted $R^2 = .185$, $F = 15.1$, $p = .000$
- Stigma ($\beta = -.185$, $p = .014$)
- Illness Perception ($\beta = -.282$, $p = .001$)
Interventions to reduce stigma and illness perception should be targeted to younger persons living with HIV to decrease negative perceptions of body fat changes.

Negative cognitive indices have a greater effect than objective indicators of lipodystrophy upon the individual’s perceptions of their bodies.

Clinician assessment should include both subjective and objective data related to lipodystrophic symptoms.
We must remain cognizant that HIV/AIDS is far from contained. Approximately 60 million have been infected, with over 25 million deaths, and more than 14 million orphaned children in southern Africa alone.