Distinct Gender Differences in the Anthropometric Profile of Patients on HAART

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1. Identify a problem or ask a question

2. Review the literature

3. Formulate a hypothesis; give operational definitions to variables

4. Choose a research design or method

5. Collect data and record information

6. Interpret your results

Disseminate findings
Background

- HAART life expectancy & well-being
- ~30% HAART patients show anthropometric and/or body composition changes
  - Weight gain
  - Fat redistribution - W:H ratio
  - Metabolic changes
- Concerns around HAART mediated BC alterations in long-term + cardio-metabolic diseases
Cardiovascular disease

- Age
- ART toxicity
- HIV
- Lifestyle
- Genetics

Dyslipidaemia
Inflammation
Immune dysfunction
Rationale & Aims

Limited anthropometric and BC information exists for the Western Cape Provincial HIV infected population

Thus, we aimed to describe these characteristics in the Drakenstein region of the WCP

Specific aims:

Describe & compare anthropometric and BC in HIV + population on HAART treatment and a HIV naïve group
Research Methods

n=146 HIV+ patients between 20-40 years randomly chosen (TC Newman & Mbekweni) in an observational study

Grouped as follows:

Group 1 – Control (Naïve)
Group 2 – on Rx for <3 years
Group 3 – on Rx form >3 years

Gender:

♂ naïve (n=13) & ♀ naïve (n=35)
♂ Rx (n=31) & ♀ Rx (n=67)
Research Methods

Parameters measured

Anthropometric assessment

Base measurements, skinfolds, circumferences

Bio-electrical impedance analysis (BIA)

Fat%, Protein mass (kg), Minerals (kg), Muscle mass (kg), Total body potassium (TBK)

Ethical clearance

Ethical clearance nrs: # S12/02/050, WCG DOH: 2012 RP 100

All patients volunteered to take part after and were free from withdrawing

Standard medical care was not disrupted
**Results**

**Triceps Skinfolds**

The triceps skinfold for females > than for males

* p<0.05; ** p<0.01; ***p<0.001
Results

**Greater muscle mass observed in males**

**Significant difference between all treatments and gender**

**Muscle mass for females recover back to baseline after >3 years**

* p<0.05; ** p<0.01; ***p<0.001
Results

Waist to Hip ratio

<table>
<thead>
<tr>
<th>Gender</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>At Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>&lt;0.85</td>
<td>0.85–0.89</td>
<td>0.90–0.95</td>
<td>≥0.95</td>
</tr>
<tr>
<td>Females</td>
<td>&lt;0.75</td>
<td>0.75–0.79</td>
<td>0.80–0.86</td>
<td>≥0.86</td>
</tr>
</tbody>
</table>

- Control
- <3 years
- >3 years
Results

Weak negative correlation for women \((r=-0.24)\)
Moderate positive correlation for men \((r=0.56); p<0.05\)

Moderate positive correlation for women \((r=0.46); p<0.05\)
Weak positive correlation for men \((r=0.07)\)
• Striking **gender difference** in South African HIV+ patients on HAART
• Both genders exhibit **muscle wasting**
• HIV+ **females** show **some improvement** with **longer treatment** vs **males**
• Higher **abdominal fat accumulation in females** with **longer treatment** potentially increases risk for future **cardio-metabolic complications**
References


Thank You For Listening --- Any Questions?