

# Exercise & Adherence for people living with HIV

## Preliminary findings June 2013

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# Background – HIV Gym Group, St Thomas' Hospital, London, UK

- HIV gym group has been running for 10 years
- Twice/week, 1 hour session, 10 week exercise programme
- Aim to promote exercise as a lifestyle choice with focus on onward referral
- Accept referrals from variety of HIV specialists
- Referral criteria
  - Increased CV Risk
  - Lipodystrophy
  - High BMI/ low BMI
  - Reduced bone density
  - De-conditioning
  - Low mood



# Previous Adherence Research: Published 2010

## Study Background

Adherence to prescribed exercise often falls below what is recommended. An observational cohort study was completed to identify characteristics influencing adherence to prescribed exercise in HIV+ populations

## Results

- **Age, gender, CD4, fitness level & reason for referral did not influence adherence however ethnicity did**
- **Perceived well being influenced adherence**

Petroczi et al. (2010) 'HIV Patient Characteristics that Affect Adherence to Exercise Programmes: An Observational Study', [The Open AIDS Journal](#), 4, 148-155.

# Current Study

## Aim

“To investigate *psychological* and *socioeconomic* factors that lead to *adherence/non-adherence* to exercise programmes and medical treatment in patients who are HIV+”

## Timeline

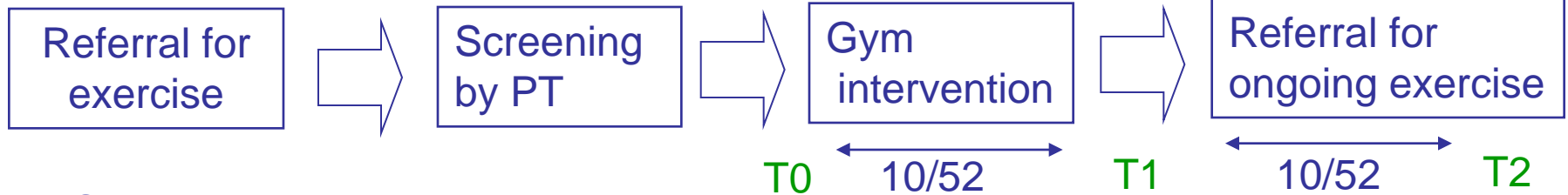
Planning:	2008 - February 2010
Data collection:	February 2010- October 2012
Analysis:	October 2012- ongoing
Dissemination:	July 2012- ongoing

## Hypotheses

“The relationship between adherence to exercise and medical treatment is stronger among those with more favourable views about the goal.”

“The way people think about the underlying goal of the treatment explains adherence behaviours over and above the behaviour specific thinking”

# Trial Pathway



## Subjects

- 43 recruited
- 4 drop outs
- 39 unsuitable
- 12 declined
- Approx 50:50 Split MSM/SSA

## Outcome measurement sessions

- Questionnaire
- Computer based test
- + FAHI, standard physical assessment including anthropometrics, 1RM + 6mwt

## Novel Aspects of this Trial

1. Outcome measures are collected ***whether or not*** the participant attends available exercise sessions
2. The project assesses ***implicit and explicit*** beliefs about both the ***underlying goal and specific behaviours***
3. Beliefs and adherence patterns are ***united***

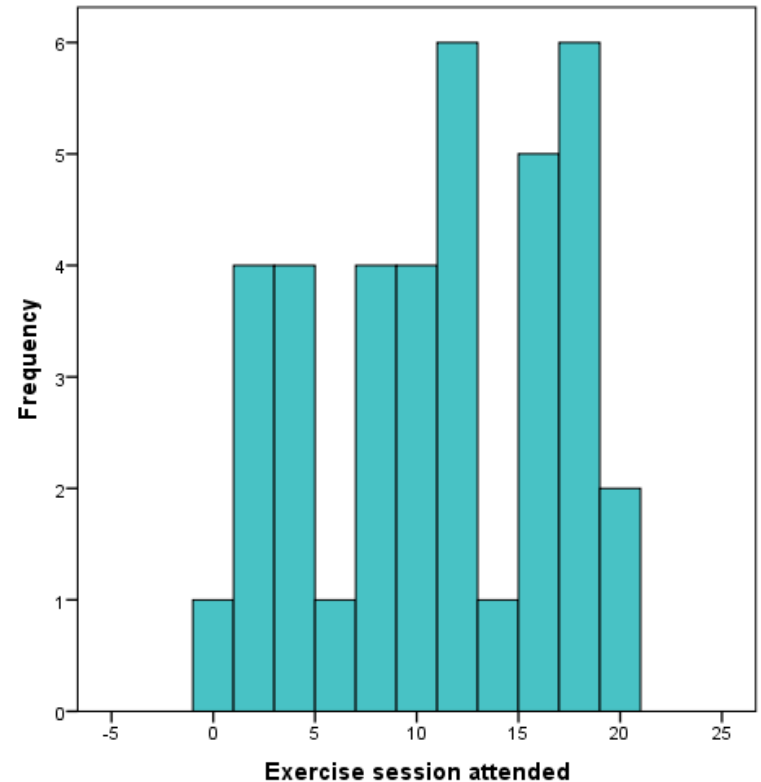
## Adherence Markers for Exercise and Medication

Exercise	Medication
<p><b>Objective marker:</b></p> <p>Number of sessions attended ( /20)</p>	<p><b>Objective marker:</b></p> <p>Analysis of hair sample</p>
<p><b>Subjective markers:</b></p> <p>Self-report (including exercise diary)</p>	<p><b>Subjective markers:</b></p> <p>Self-report</p>
<p><b>Factors Contributing to Exercise and Medication Adherence</b></p>	
<p><b>Implicit &amp; Explicit Attitudes</b></p> <ul style="list-style-type: none"> <li>•Goal (following doctor's orders)</li> <li>•Behaviour (attending exercise sessions)</li> <li>• Also- intention, subjective norms, self-efficacy</li> </ul>	<p><b>Implicit &amp; Explicit Attitudes</b></p> <ul style="list-style-type: none"> <li>•Goal (following doctor's orders)</li> <li>•Behaviour (taking medication)</li> <li>•Also- intention, subjective norms ,self-efficacy</li> </ul>



# Sample Characteristics

- **Sex:** 65% male
- **Age** (M = 44.53, SD = 6.54), range: 32 – 55 years of age
- **Exercise adherence** (M = 10.55 , SD = 6)
- **Participants** were categorised as **low (0-6), medium (7-12) or high (14-20)** level of attendance



## Tentative Conclusions

- **Gender** has a significant influence on the *efficacy to following orders*
- **Age** has a significant influence on the *efficacy to following orders*
- **Age** has a significant influence on *attitude towards exercise*
- **Conscientiousness** as a personality trait, links *exercise self-efficacy* with *exercise adherence* (i.e. strengthens the relationship between both explicit and implicit beliefs about self-efficacy and adherence)

# Changes in FAHI scores over time + Links with Beliefs

- In all three groups (low, medium and high exercise attendance), FAHI scores improved over time
- At Baseline (T0) Perceived holistic well being (FAHI) *did not correlate* with the strength of associations regarding taking medication and exercise
- At completion of course (T1) implicit associations regarding taking *medication and exercise correlated significantly* with perceived well being
- At 10 week follow up (T2) Correlations for implicit beliefs regarding *medication remain high* but interestingly *not for exercise...*
- **Implicit associations** predicts exercise behaviour better than (explicit) self-reports

## Next Steps

- **Current trial:**
  - Full data analysis + conclusions
  - Disseminate (papers and presentations)
- **Next phase trial:**
  - Refine data collection – streamlined protocol based on results
  - Next phase of trial- identify strategies to increase recruitment.
- **Long term goals:**
  - Identify beliefs which influence intention to exercise/take medication in HIV.
  - Develop interventions which aim to modify beliefs responsible for poor adherence patterns

# Published Papers 2012-2013

Protocol paper  
(2012)

Hair analysis  
technique paper  
(2013)

Jones et al. *BMC Public Health* 2012, 12:587  
<http://www.biomedcentral.com/1471-2458/12/587>



HEALTH BEHAVIOR, HEALTH PROMOTION AND SOCIETY Open Access

## Understanding how adherence goals promote adherence behaviours: a repeated measure observational study with HIV seropositive patients

Gareth Jones<sup>1</sup>, Kim Hawkins<sup>1</sup>, Rebecca Mullin<sup>1</sup>, Tamás Nepusz<sup>2</sup>, Declan P Naughton<sup>3</sup>, Paschal Sheeran<sup>4</sup> and Andrea Petróczi<sup>3,4\*</sup>

Journal of Pharmaceutical and Biomedical Analysis 74 (2013) 308–313



Contents lists available at SciVerse ScienceDirect

Journal of Pharmaceutical and Biomedical Analysis

journal homepage: [www.elsevier.com/locate/jpba](http://www.elsevier.com/locate/jpba)



Simultaneous analysis of antiretroviral drugs abacavir and tenofovir in human hair by liquid chromatography–tandem mass spectrometry

Syeda A.B. Shah<sup>a</sup>, Rebecca Mullin<sup>b</sup>, Gareth Jones<sup>b</sup>, Iltaf Shah<sup>c</sup>, James Barker<sup>a</sup>, Andrea Petroczi<sup>c</sup>, Declan P. Naughton<sup>c,\*</sup>

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