Disagreement Between Physician Estimated and Self-Reported Adherence to Antiretroviral Treatment in HIV-1 Infected Adults

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Disclosures

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- The following personal or financial relationships relevant to this presentation existed during the conduct of the study:
  - Ana P Martins works in the external affairs department of pharmaceutical company Merck Sharp & Dohme, Portugal.
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Patient Adherence to Treatment

- **High adherence to combination antiretroviral treatment**
- Slows progression to AIDS
- Decreases the likelihood of virus transmission
- Is associated with a decreased rate of viral resistance
- Promotes superior viral load suppression
- Promotes better immunologic outcomes
- Decreases health associated costs

No Gold-Standard Method

- Self-report showed to be a reliable method of adherence measure, mainly due to its specificity
- Agreement between physician and other methods ranges between 35 and 62% in previous studies with physicians tending to underestimate adherence
- Some studies suggest that physician assessment of therapeutic adherence can affect the infection prognosis

This Study Aims To

1. Determine the agreement between physician assessed and patient self-reported antiretroviral therapeutic (ART) adherence

2. Explore factors associated to disagreement between the two methods

Study Design

- Cross-sectional study, with questionnaires applied to both patients and physicians between May and July 2011.

- Systematic sampling at the HIV Outpatient Clinic Hospital de Santa Maria (HSM)

Methods

HIV-1 subjects followed at Infectious Diseases Outpatient Clinic (HSM), prescribed to cART

Systematic inclusion of patients with one medical appointment during the enrollment period (May-July 2011)

Exclusion criteria

1. Having started antiretroviral treatment at other hospital than HSM clinic
2. Having started antiretrovirals when aged <18 years-old
3. Having participated in clinical trials
4. Not having capacity to consent their participation
5. Depending on other person/institution to access/ take medication.

Invitation and Informed consent

10% refused

31% not eligible

Questionnaires applied to patients and their physicians

The study was approved by the Ethics Committee of the HSM and the Portuguese Data Protection Authority

Adherence

Antiretroviral therapeutic self-reported adherence

Adult AIDS Clinical Group Trial Score (AACTG)

Variables	High adherence	Moderate adherence*	Poor adherence*
Last 4 days	All days	All days	Missed a day
Last 4 days schedule	Always	Frequently or less	———————
Last weekend	Yes	No	———————
Last 30 days	Always	Frequently or occasionally	Rarely or never

*Only one class is needed to classify the patient as moderate or poor adherence

Antiretroviral therapeutic physician estimated adherence

One question asking to classify the patient as:

- High adherent
- Moderate adherent
- Poor adherent

Other variables collected

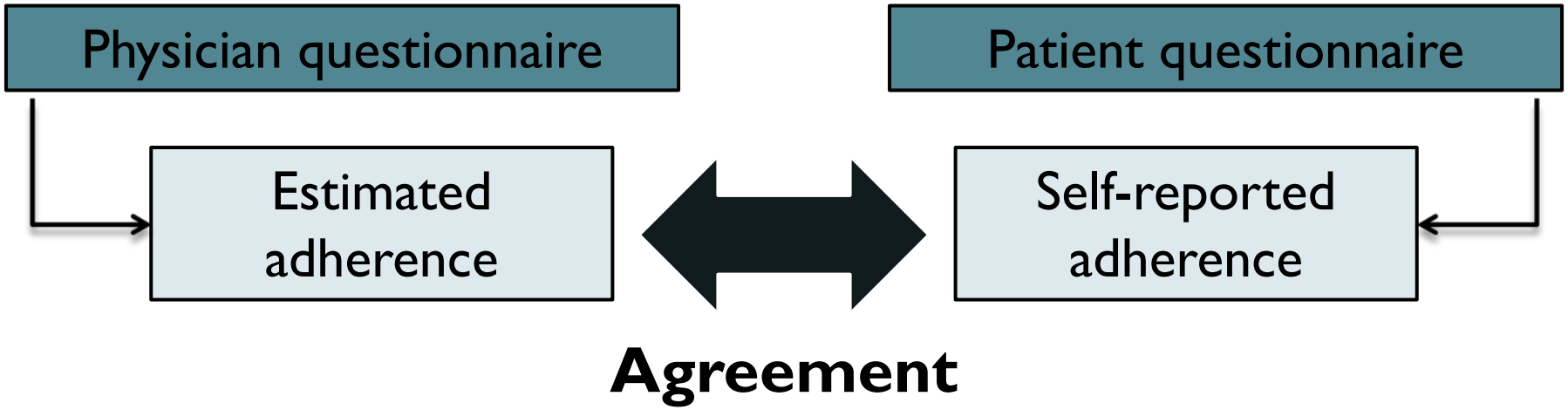
Patient Questionnaire

- Socio-demographic data
- Behaviors and habits
- Social support satisfaction – SSS Scale: 15–75 points
- Psychological status – Anxiety Depression Stress Scale: 0–21 points
- Disease beliefs

Physician Questionnaire

- Patient clinical data (time since diagnosis and under HAART, AIDS status, opportunistic infections, co-infections and co-morbidities)
- Adherence recommendations

Statistical Analysis



Statistical Analysis

- Weighted kappa statistic for agreement between physician and patient
  - Agreement is significantly better than random if weighted kappa statistic > 0.4

- Bivariate analyses for association between independent variables and disagreement
  - Disagreement associated factors

Study participants

N = 184	
Age (mean±sd, years)	48.3±10.1
Male (%)	75.0
Time since diagnosis (years, median)	12.1
Time on antiretroviral treatment (years, median)	11.6
Mode of acquisition for HIV/AIDS infection (%)	
Heterosexual intercourse	44,0
Men having Sex with Men	26.1
Injection Drug Users	16.3
Other	14.4
AIDS classification (%)	33.3
HIV/AIDS direct complications or opportunistic infections (%)	6.0
Co-infections (%)	27.2
Non-infectious comorbidities (%)	50.0

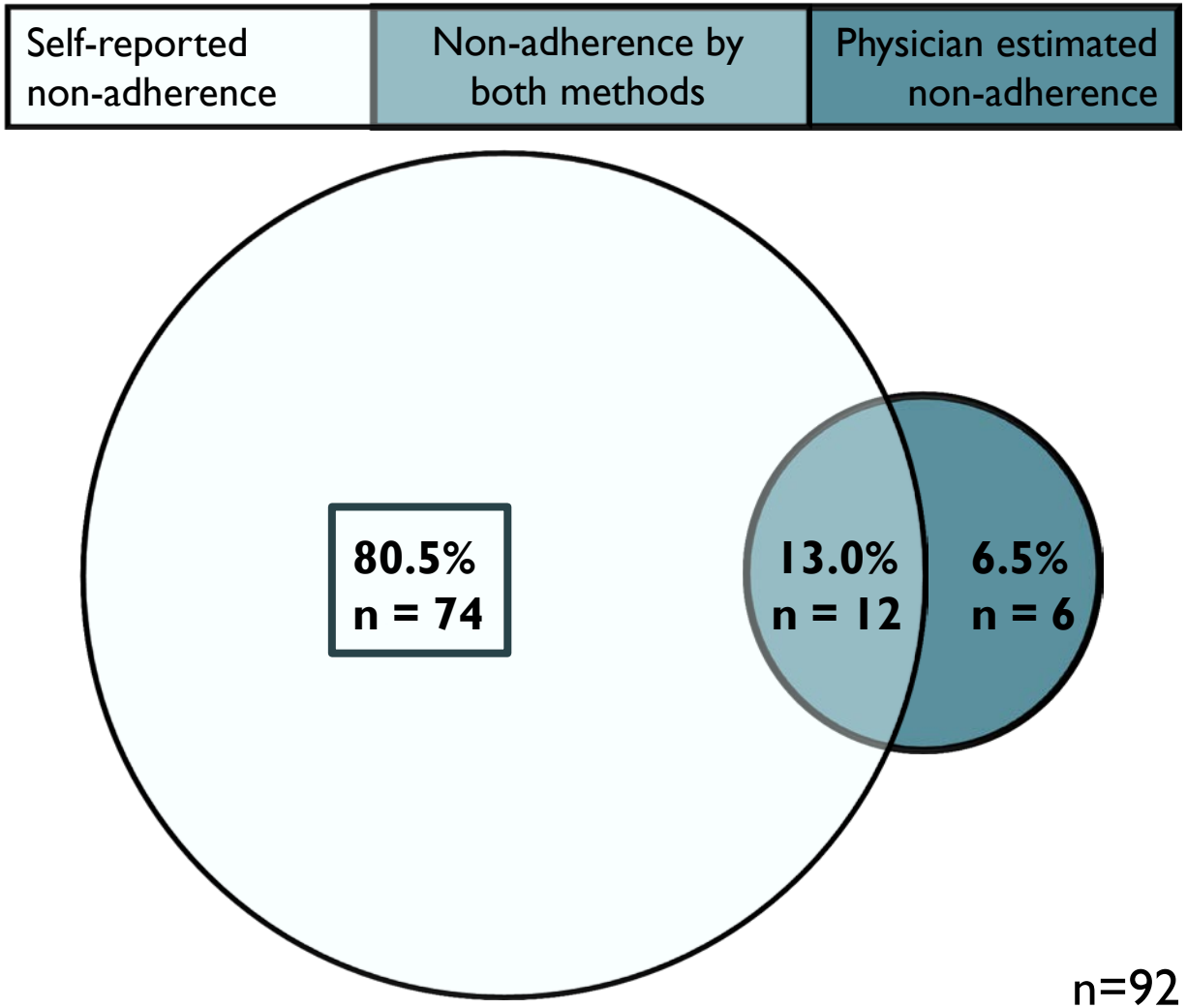
Agreement between measures

Agreement = 53.8%

Weighted kappa = 0.098, CI95%: 0.002-0.194

		Estimated adherence by the physician			
		High (n=166)	Moderate (n=14)	Poor (n=4)	Total (n=184)
Self-reported adherence [%]	High (n=98)	**93.9 (50.0)**	6.1	0.0	53.3
	Moderate (n=70)	90.0	**7.1 (2.7)**	2.1	38.0
	Poor (n=16)	68.8	18.8	**12.5 (1.1)**	8.7
	Total (n=184)	90.2	7.6	2.2	100

Agreement between measures



Factors associated to disagreement

Variable	Disagreement	Agreement	OR	$CI_{95\%}$
Being divorced [%]	65.4	34.6	2.50	1.05-5.95
Living alone [%]	60.4	39.6	2.18	1.11-4.27
Having addictive habits [%]	54.0	46.0	2.00	1.11-3.63
Chronic alcoholism [%]	70.0	60.4	4.02	3.56-10.68
Binge-Drinking [%]	67.6	32.4	2.97	1.35-6.53
Variable	**Disagreement**	**Agreement**	**Dif.**	**$CI_{95\%}$**
Anxiety (EADS score average)	4.1	2.0	2.1	1.1-5.4
Stress (EADS score average)	4.6	2.9	1.7	1.3-4.7
Depression (EADS score average)	5.9	4.4	1.5	1.4-4.3

Other differences between measures

One direct question to assess self reported therapeutic adherence	≠	**A therapeutic adherence score applied to the patient**
Agreement between physician and self reported last 4 days Kappa = 0.211	>	**Agreement between physician and self reported last 30 days Kappa = 0.074**

All patients whose adherence was underestimated received adherence recommendations	**Only 53.2% of patients whose adherence was overestimated received adherence recommendations**

Limitations

- Self-reported adherence has known limitations and bias
  - A multi-methodological approach to compare with physician assessed adherence would be more reliable
- Evaluation of associated factors with disagreement and other determinants and outcomes
  - Lack of statistical power
- Long term consequences of disagreement between physician and patient are unknown

Main Findings

- Agreement between self-reported adherence and that estimated by physician is low (53%)
  - Physician tends to overestimate the self-reported adherence (in contrast to previous studies)

- Psychological status, living alone, being divorced and alcoholism are associated with disagreement between measures

- Measuring adherence is complex and difficult and may have consequences in disease management and prognosis
  - Ways to optimize physician estimated adherence seem to be needed

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Obrigado!