# Health Literacy is related to HIV+ Persons Medication Adherence Motivations

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# Health Literacy

- "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions"

(Selden, Zorn, Ratzan, & Parker, 2000)

# Health Literacy & HIV/AIDS

- Low/limited health literacy problematic in HIV/AIDS

- Linked to:

  – Lower HIV knowledge (Kalichman et al., 1999)

  – Reduced medication-taking frequency/accuracy (Kalichman et al., 1999; 2000; Waldrop-Valverde et al., 2010)

  – Racial/ethnic disparities in medication management & adherence (Osborn et al., 2007; Waldrop-Valverde et al., 2009; 2010)

# Motivation

- Necessary to enact adherence: actually taking one's medications.

- Self-Determination Theory (SDT) deals with the sources of motivation as they relate to self-regulation and autonomy

  - Internal: value, personal satisfaction (the 'right thing to do')

  - External: pleasing others, rewards, compliance

# Is Health Literacy Associated with Adherence Motivation?

- The purpose of this analysis was to examine the relationship of health literacy to medication adherence motivation.

# Project READ

- Data collected from an ongoing study Project READ – **R**esearch to **E**liminate **A**IDS **D**isparities
  - Does low health literacy contribute to disparities in HIV clinical outcomes?
  - Completed 3 of 5 years
- Participants enrolled from one of three Infectious Diseases clinics in metro-Atlanta
- Eligibility
  - Have attended at least 1 scheduled HIV medical appointment in the last 9 months at one of the recruiting clinics
  - Current prescription for antiretroviral medications (for at least the past 6 months)
  - Fluent in English
  - Answered all items correctly on consent post-test

9th International Conference on
**HIV TREATMENT AND PREVENTION ADHERENCE**

READ

# Instruments

- HIV-Health Literacy (HIV-HL) and HIV-HL-2
  - Both measures are computer-administered and scored
  - HIV-HL described in *AIDS and Behavior*
- Problems identified:
  - Ceiling effects (some people get perfect scores)
- Revision:
  - More HIV-specific content
  - Video is longer and has more elements
  - Some questions are more difficult

Ownby, Waldrop-Valverde, et al. 2013; *AIDS and Behavior, 17(2)*

# HIV-HL-2 Administration and Scoring

- 25 multiple choice questions assessing general as well as HIV-specific content
- Content of question is in audio, although patient is directed to read specific content on the screen
- Administered on standard commercial touch screen computers (Windows OS; HP Touchsmart®)
- Items are scored automatically
- Data file generated includes item choices and time spent on each item

www.flightvidas.org/hivhl

# Video items

- The measure includes a 90-second video that presents a simulation of a clinical encounter

- The clinician presents a directions for taking a new medication for viral load, likely and rare side effects, and coping with side effects.

- Multiple choice questions assess memory for and understanding of the information.

On the next slide, you will be able see a short video about a made-up medication. You'll see a doctor telling a person how to take the medication. Please listen to the video. After you see it, we'll ask you to answer some questions about it. You can go on to the video by clicking on the "Continue" button.

Continue

R𝑥EAD
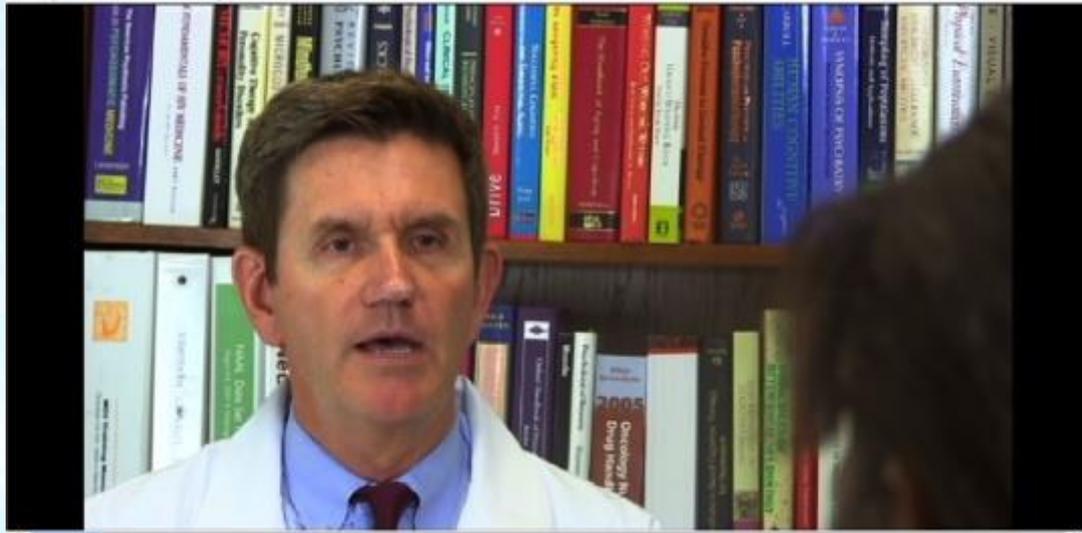
You must answer the question before continuing

The reason for taking this medicine was to help with person's:

- ⦿ A) Viral load
- ○ B) Side effects
- ○ C) Headache
- ○ D) Blurry vision

Clear     Submit

# Instruments

- ## HIV-HL-2

  - ### Cut score

    - $\geq$ 19 is considered Adequate HL
    - <19 is considered Inadequate HL

# Instruments

- HIV Medication Adherence Motivation
  - 15 items "I take my HIV medicines because…"
    - (1) Not at all true……..(5) Very true
  - 2 subscales
    - Internal motivation (9 items)
      - 'I want to take responsibility for my own health'
    - External motivation (6 items)
      - 'I want others to approve of me'
  - Cronbach's alpha = .74

# Sample Characteristics (N = 376)

- Race: 65% AA  (n= 244)
- Gender: 71% Male (n = 265)
- Sexual orientation: 42.5% heterosexual
- Any kind of insurance last 12 mos: 73%
- Mean age = 48.9  SD 8.8
- Mean education =12.9 SD 2.9 years
- HIV-HL-2 score $\geq$ 19
  - 38.3% had **adequate** HL (n = 144)

# Literacy and motivation item analysis*

- Those with inadequate HL had significantly higher scores on 4 items of external control (others will be upset, feel pressure from others, easier to do what I'm told, others will approve)

- and lower scores on 2 items reflecting internal control (I know why I take my ART, not taking meds puts me at health risk)

- *independent pairwise comparisons among the estimated marginal means. F= 2.361, p = .003

# Motivation and HL scores

| Adherence Motivation | HIV HL | Mean score |
| --- | --- | --- |
| External | Adequate | 14.04 |
| | Inadequate | 16.92* |
| Internal | Adequate | 41.82 |
| | Inadequate | 40.89 |

*($F = 6.76$, $p = .001$)  independent pairwise comparisons among estimated marginal means

# Discussion

- SDT posits that intrinsic motivation is needed for self-regulation and autonomy. Those who adhere for intrinsic reasons do so because they believe it is the right thing to do for themselves. Autonomous regulation has been associated with better medication adherence.

- Those who are extrinsically motivated are driven by external sources such as rewards, punishments, or approval.

# Conclusions

- PLWHA with inadequate HL were more motivated by what others thought, or for approval by others.

  – Could reflect a reliance on information and reinforcement from others because of an inability to fully read and understand and internalize health information.

  – Providers should be cognizant of the potential relationship of HL to motivation when tailoring adherence education and messages for low literacy patients.

# Acknowledgements

www.flightvidas.org/hivhl

# Thank you

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