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Alpert Medical School

VIDEO-DELIVERED RAPID HIV PRE-TEST INFORMATION TO STREAMLINE HIV TESTING

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OVERVIEW

- **Video development**
 - “Do you know about rapid HIV testing?”
 - www.brown.edu/brunap
- **Pilot study**
 - **Trial One: In-person discussion vs. no pre-test information**
 - **Trial Two: In-person discussion vs. video**
- **Non-inferiority trial**
- **Patient satisfaction with pre-test information**



VIDEO DEVELOPMENT

“Do you know about rapid HIV testing?”

- **Animated and live-action 9.5-minute informational film**
- **Five sections**
 - **HIV/AIDS definitions and descriptions**
 - **HIV transmission**
 - **HIV prevention**
 - **HIV testing**
 - **Rapid HIV testing with OraQuick®**
- **Content based upon 2001 CDC HIV counseling and testing recommendations**
- **Cognitive-based assessments through intensive interviews conducted evaluating video quality, message, and intent**



“DO YOU KNOW ABOUT RAPID HIV TESTING?”

HIV/AIDS definitions and descriptions



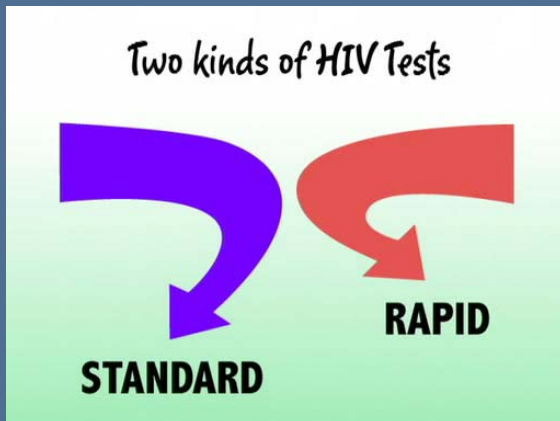
HIV/AIDS transmission



HIV/AIDS prevention



HIV testing



Rapid HIV testing with OraQuick®



PILOT STUDIES: TRIALS ONE AND TWO

- **Objectives**

- Compare ED patient comprehension of rapid HIV “pre-test” fundamentals
 - **Trial One:** In-person discussion vs. no information
 - **Trial Two:** In-person discussion vs. video

- **Methods**

- Random selection of patients present in the ED on a convenience sample of dates in 2005
- Random allocation of eligible participants
- Scripted in-person discussion with a research assistant (RA)
 - 2001 CDC-recommended elements for HIV pre-test information
 - > 40 hours of mock interviews and direct observation to ensure quality of RA delivery of the in-person discussion
- RA administration of the 26-item “Rapid HIV pre-test information” questionnaire
 - “True”, “False”, “I don’t know” responses

PILOT STUDIES: TRIAL ONE RESULTS

No Information	In-person Discussion	p- value
<i>n=38</i>	<i>n=31</i>	

Subject Area	μ (σ)	Median (Range)	μ (σ)	Median (Range)	$p \leq$
HIV/AIDS Definition	2.66 (1.15)	3 (0-4)	3.48 (0.68)	4 (1-4)	0.00
HIV Transmission	2.82 (1.18)	3 (1-5)	3.90 (0.94)	4 (2-5)	0.00
HIV Prevention	2.84 (1.37)	3 (0-5)	3.52 (1.03)	4 (2-5)	0.04
HIV Testing	2.84 (1.42)	3 (0-6)	3.65 (1.20)	4 (1-5)	0.01
Rapid HIV Testing	2.03 (1.38)	2 (0-5)	4.26 (1.12)	4 (2-6)	0.00
All Subject Areas	13.34 (4.45)	13 (6-24)	18.71 (3.50)	20 (10-24)	0.00

PILOT STUDIES: TRIAL TWO RESULTS

In-person Discussion	Video	p-value
<i>n=59</i>	<i>n=55</i>	

Subject Area	μ (σ)	Median (Range)	μ (σ)	Median (Range)	$p \leq$
HIV/AIDS Definition	3.51 (0.68)	4 (1-4)	3.33 (0.86)	4 (1-4)	0.35
HIV Transmission	4.02 (0.96)	4 (2-5)	4.22 (0.79)	4 (2-5)	0.34
HIV Prevention	3.73 (1.19)	4 (1-5)	3.73 (1.10)	4 (1-5)	0.85
HIV Testing	3.73 (1.27)	4 (0-6)	4.18 (1.06)	4 (2-6)	0.05
Rapid HIV Testing	4.29 (1.25)	4 (2-6)	4.45 (1.14)	5 (1-6)	0.39
All Subject Areas	19.2 (3.63)	20 (11-25)	20.0 (2.98)	21 (11-25)	0.33

NON-INFERIORITY TRIAL

- **Objectives**

- Determine if the video “Do you know about rapid HIV testing?” is an effective substitute for an in-person discussion for rapid HIV pre-test information
- Identify ED patients with potential difficulties in comprehending rapid HIV pre-test information

- **Methods**

- July 2005-July 2006
- Random selection of patients
- ED patients agreeing to undergo rapid HIV testing
- Randomized, controlled, non-inferiority trial
 - Video vs. in-person discussion with an HIV counselor (RA)
- “Rapid HIV pre-test information comprehension” questionnaire

NON-INFERIORITY TRIAL

- **Data analysis**
 - **Primary objective**
 - **Non-inferiority comparison**
 - **95% confidence interval (CI) approach**
 - » **Video not inferior to in-person discussion if the 95% CI for the difference in means between the two groups was less than a 10% reduction**
 - » **10% acceptable difference (maximum of 2.6 points) based upon results of pilot study, work by Calderon, et al., and typical value for “non-inferiority”**
 - **Identification of subgroups with reduced comprehension of pre-test information**
 - **Linear regression**
 - **Predicted scores based upon race/ethnicity, years of education, and information group**

NON-INFERIORITY TRIAL

Underwent 1° Eligibility Screening:
n=13,596

Did Not Meet 1° Eligibility Criteria: n=11,068 (81.4%)

Wrong Age	52.6%	Intoxicated	5.8%
Not English speaking	20.6%	HIV infected	1.4%
Currently pregnant	2.7%	Mentally disabled	2.4%
Inmate	1.9%	Physically disabled	2.1%
Psychiatric visit	8.2%	Previously in study	0.8%
Unavailable for screening	14.9%		

Eligible for 2° Eligibility Screening:
n=2,528 (18.6%)

Refused 2° Eligibility Screening: 14.5%

Underwent 2° Eligibility Screening:
n=2,162 (85.5%)

Did Not Meet 2° Eligibility Criteria: 0.4%

HIV infected	n=4
HIV vaccine study	n=3

Eligible for Study:
n=2,155 (99.7%)

Dropped Out During Preliminary
Study Questions: 2.3%

Completed Enrollment:
n=592 (27.4%)

Declined to be Tested for HIV
and be in Study: 59.5%

Agreed to be Tested for HIV but
Declined to be in Study: 7.8%

In-person Discussion:
n=313 (52.9%)

Video Presentation:
n=279 (47.1%)

Dropped out During Enrollment: 3.0%

PARTICIPANT DEMOGRAPHICS AND HIV TESTING HISTORY

ALL PARTICIPANTS N=592

Median Age (Range)	30 (18-55)
Gender	%
<u>Female</u>	54.2
Male	45.8
Ethnicity	
Black	19.9
Hispanic	14.1
<u>White</u>	64.1
Other	1.9
Partner Status	
<u>Single/Never Married</u>	48.4
Married	18.6
Divorced/Separated/Widowed	17.8
Unmarried Couple	15.2

Ever Tested for HIV	%
<u>Previously HIV Tested</u>	62.4
Never Tested for HIV	36.2
Unsure if Ever Tested	1.4

Insurance Status	%
Private	36.9
Governmental	35.7
Private/Governmental	1.9
None	25.5
Years of Education	
Grades 1-8	3.8
Grades 9-11	22.7
Grade 12 or equivalent	34.2
College 1-3 years	27.3
College 4 years	3.0

Time Elapsed Since Last HIV Test	%
>5 years ago	19.6
>2 years but ≤5 year	19.0
>1 year but ≤2 years	17.1
>6 months but ≤1 year	21.6
≤6 months	22.7

TRIAL RESULTS

- Mean scores on the questionnaire
 - Video arm: 20.1 (95% CI: 19.7-20.5)
 - In-person discussion arm: 20.8 (95% CI: 20.4-21.2)
- Difference in mean scores by study arm
 - $\Delta = 0.68$ (95% CI: 0.18-1.26)
- Non-inferiority criterion met
 - 95% CI of the difference in mean scores between study arms (0.18 to 1.26) was less than a 10% reduction in the mean score of the in-person discussion arm (< 2.08)



PREDICTORS OF HIGHER MEAN SCORES ON THE “RAPID HIV TESTING COMPREHENSION” QUESTIONNAIRE: MULTIVARIABLE MODELS

Ethnicity/Race	β (95% CI)
White	Reference
Black	-0.77 (-1.45, -0.09)
Hispanic	-1.19 (-1.98, -0.40)
Other	-0.84 (-2.78, 1.10)

Insurance Status

Private	Reference
Governmental	-1.12 (-1.80, -0.44)
Private/Governmental	0.36 (-1.59, 2.31)
None	-0.62 (-1.36, 0.11)

Years of Education	β (95% CI)
Grades 1-8	Reference
Grades 9-11	1.94 (0.48, 3.39)
Grade 12/equiv.	2.99 (1.55, 4.42)
College 1-3 years	4.13 (2.67, 5.60)
College 4 years	4.90 (3.30, 6.50)

Information Group

Video	Reference
In Person Discussion	0.65 (0.12, 1.18)



PRE-TEST INFO PREFERENCES

Preferences for delivery format of rapid HIV pre-test information

	All Participants	Video Group	In-person Discussion Group
	<i>(n=561)</i>	<i>(n=266)</i>	<i>(n=295)</i>
A person	54.2%	31.2%	74.9%
A video	7.7%	14.3%	1.7%
Either a person or a video	38.2%	54.5%	23.4%

PRE-TEST INFO PREFERENCES

- **Information delivery format: main reason for preferences**
 - **From a person (54.2%)**
 - **Ask questions/interact (52.0%)**
 - **More personal than a video (24.7%)**
 - **From a video (7.7%)**
 - **Visual aids (37.2%)**
 - **More entertaining/engaging (20.9%)**
 - **From either a person or a video (38.2%)**
 - **Different merits/advantages (38.3%)**
 - **Same information (28.5%)**



PRE-TEST INFO PREFERENCES

How well informed after receiving pre-test information

	All Participants	Video Group	In-person Discussion Group
	<i>(n=561)</i>	<i>(n=266)</i>	<i>(n=295)</i>
Not well informed	0.2%	0%	0.3%
Somewhat informed	5.7%	8.6%	3.1%
Well informed	43.7%	50.8%	37.3%
Very well informed	50.5%	40.6%	59.3%

DISCUSSION AND COMMENTARY

- Video an acceptable substitute for HIV pre-test information
 - **Superiority of in-person discussion?**
 - “Unfair” comparison of video
 - Patient preference for in-person discussion
 - » Acquiescence bias/Social acceptance
 - » “Try it and you’ll like it”
 - **Clear effect of education**
 - Test taking skills
 - Effect on HIV prevention?
 - **No effect of prior HIV testing**
 - **Small contribution of race/ethnicity**
 - **Hybrid approach?**
 - **Minimum content necessary for testing?**
 - **As an alternative to formal HIV prevention counseling?**



LIMITATIONS

- **Study sample**
 - Large number of excluded patients
 - Exclusion of Spanish-speakers
 - Likely selected for lower risk groups
 - One study site
- **Questionnaires**
 - Did not measure HIV infection risk
 - Cannot assess “readiness” for HIV testing
 - Non-blinded patient satisfaction assessment



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