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"There is no Proof that HIV Causes AIDS": AIDS Denialism Beliefs among People Living with HIV/AIDS

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Abstract

AIDS denialists offer false hope to people living with HIV/AIDS by claiming that HIV is harmless and that AIDS can be cured with natural remedies. The current study examined the prevalence of AIDS denialism beliefs and their association to health-related outcomes among people living with HIV/AIDS. Confidential surveys and unannounced pill counts were collected from a predominantly middle aged and African American convenience sample of 266 men and 77 women living with HIV/AIDS. One in five participants stated that there is no proof that HIV causes AIDS and that HIV treatments do more harm than good. AIDS denialism beliefs were more often endorsed by people who more frequently used the internet after controlling for confounds. Believing that there is a debate among scientists about whether HIV causes AIDS was related to refusing HIV treatments and poorer health outcomes. AIDS denialism beliefs may be common among people living with HIV/AIDS and such beliefs are associated with poor health outcomes.

Introduction

Fringe and extremist groups that challenge well-established historical and scientific facts have become increasingly visible, particularly on the Internet. Holocaust Deniers, for example, claim that Nazi Germany did not systematically kill 6 million Jews (Shermer, 2000) and Global Warming Deniers believe that climatology is a flawed science with no proof of greenhouse gases changing the atmosphere (Lawler, 2002). Among the most vocal anti-science denial movements is AIDS Denialism, an outgrowth of the radical views of University of California biologist Peter Duesberg (Duesberg, 1992, 1994; Duesberg & Bialy, 1995; Duesberg & Rasnick, 1998). Duesberg claims that HIV and all other retroviruses are harmless and that AIDS is actually caused by illicit drug abuse, poverty, and antiretroviral medications (Duesberg, Nicholson, Rasnick, Fiala, & Bauer, 2009). Until recently, AIDS scientists have largely ignored denialists, stating that they are no longer relevant and are not a threat to HIV/AIDS treatment and care (Diethelm & McKee, 2009; Moore, Bergman, & Wainberg, 2007).

Unfortunately, ignoring AIDS denialists has not addressed the problem and AIDS denialism is flourishing as a result (Casey, 2009; Duesberg, et al., 2009; Farber, 2006; Howard, 2009; Lenzer, 2008; Margulis, et al., 2009). AIDS denialism promotes the idea that HIV is harmless and cannot cause any disease, most certainly not AIDS. Some AIDS denialists claim that there is no proof that HIV exists at all. HIV antibody tests are said to be invalid because anyone can test HIV positive, people who do test positive do not develop AIDS, and there are people who develop AIDS who have never tested HIV positive (Kalichman, 2009). AIDS denialism rejects HIV treatments as toxic poisons that do more harm than good. The central tenant of AIDS denialism is that there is an ongoing debate among legitimate scientists regarding whether HIV even exists and if it does exist whether HIV causes AIDS. AIDS denialism intersects with AIDS conspiracy theories, and may impede HIV prevention and treatment. (Bogart & Thorburn, 2005; Bogart & Thorburn, 2006; Thorburn & Bogart, 2005).

The adverse effects of AIDS denialism have been most discussed in South Africa, where former President Thabo Mbeki gave equal credibility to AIDS Denialists and genuine AIDS scientists. As a result, the South African government delayed HIV testing and thwarted efforts to distribute antiretroviral medications (Nattrass, 2007). The result was devastating, with over 330,000 South Africans dying earlier than necessary from AIDS and over 35,000 babies needlessly HIV infected because medications that can prevent mother-to-child HIV transmission were not made available (Chigwedere & Essex, 2010; Chigwedere, Seage, Gruskin, Lee, & Essex, 2008; Geffen, 2009; Nattrass, 2007, 2010). Other African countries have followed South Africa by embracing AIDS denialism, such as Gambia where the President claims to cure AIDS with a potion revealed by his ancestors (Associated-press, 2007).

Recent research suggests that AIDS denialism is undermining HIV prevention and treatment in the US. One study of gay and bisexual men in five US cities showed that 45% of men agreed with the statement "HIV does not cause AIDS" and 51% of men agreed with the statement "HIV/AIDS drugs can harm you more than help you" (Hutchinson, et al., 2007). A study of people living with HIV/AIDS also found surprisingly high rates of AIDS denialist beliefs, with 17% of infectious disease clinic patients in Baltimore agreeing with the statement "HIV does not cause AIDS" (Wald, Synowski, & Temosjok, 2009). Wald et al. showed that AIDS denialist beliefs were most frequently endorsed by patients who were not being treated with antiretroviral medications, suggesting a vulnerability to AIDS denialist rhetoric.

The current study examined AIDS denialism beliefs in a community sample of men and women living with HIV/AIDS. We hypothesized that people living with HIV/AIDS who use the Internet will be more inclined to endorse AIDS denialism beliefs and that interest in misinformation taken from the internet will be associated with greater endorsement of AIDS denialist beliefs. In addition, we hypothesized that people living with HIV/AIDS who believe that there is a debate among scientists about whether HIV causes AIDS would demonstrate less use of antiretroviral medications, poorer treatment adherence, and poorer HIV-related health status.

Methods

Participants

A convenience sample of 266 men and 77 women was recruited from AIDS services, health care providers, social service agencies, and infectious disease clinics in Atlanta, GA. Snow-ball sampling was used to identify individuals both in and out of care. Recruitment relied on responses to brochures placed in waiting rooms of AIDS service providers and infectious disease clinics throughout Atlanta as well as a systematic approach to word-of-mouth chain recruitment. Specifically, participants were given study brochures and encouraged to refer their HIV positive friends to the study. The study entry

criteria were age 18 years or older, scored at least 80% correct on the Test of Functional Health Literacy for adults, (TOFHLA) (Baker, Parker, Williams, & Clark, 1998) and proof of positive HIV status.

Procedures and Measures

Measures were collected using an instructor guided self-administration procedure in groups of 4 to 8 persons. Participants were shown page by page how to complete the study measures by using a projected facsimile, assuring that instructions for each instrument was carefully described and that participants were given privacy when responding. We also conducted a brief exit interview to verify understanding of our belief measures. Data were collected between January 2008 and June 2009. The study was approved the University of Connecticut Institutional Review Board.

Demographic, Internet use and health characteristics Participants were asked their age, years of education, income, ethnicity, sexual orientation, employment status, and internet use. HIV related symptoms were assessed using a previously developed and validated measure (Kalichman, Rompa, & Cage, 2000). Participants indicated whether they had been hospitalized and their most recent CD4 (T-Cell) count and viral load.

HIV treatment status and treatment adherence Participants reported whether they were currently taking HIV treatments. Those not being treated reported the reasons for their current treatment status that included their doctor's recommendations, issues of drug tolerance, and refusal. For participants receiving treatment, we conducted unannounced pill counts to objectively assess HIV treatment adherence. The telephone adaptation of unannounced pill counts has been validated against home-based pill counts and patient viral load (Bangsberg, Hecht, Charlebois, Chesney, & Moss, 2001; Kalichman, et al., 2008; Kalichman, et al., 2007). At an office intake session that included informed consent, participants were trained to count their medications using the following steps after answering the telephone: (a) bring all medications that are in the home to a comfortable flat surface near the telephone, including closed bottles, pocketed doses, and pill boxes; (b) sort medications into clusters; (c) select a medication and tell the pill counter the prescription (Rx) numbers, refill dates, number of refills remaining, and dispensed quantities; (d) report to the pill counter lost or gained pills since their previous count and whether the drug was taken that day; (e) count pills using a pharmacist tray and cup provided by the study; if using a pillbox, open each compartment to count the pills without removing them from containers; (f) repeat procedure to double count all pills. Participants were provided with a free cell phone that restricted service for project contacts and emergency use (e.g., 911). Participants were called at an unscheduled time by a phone assessor. Pill counts occurred over 21 to 35 day intervals. Adherence was calculated as the ratio of pills counted relative to pills prescribed and dispensed.

AIDS-Related Knowledge We measured HIV disease and treatment knowledge using nine items that reflect HIV disease processes and types of treatments (Kalichman, et al., 2006). Sample items include, "Is PCP a form of cancer?" [no] and "Does HIV drug resistance limit treatment options" [yes]. All knowledge items were responded to with "Yes," "No," or "Don't Know" with Don't Know responses scored as incorrect, alpha = .68.

AIDS Denialism Beliefs We developed 9 items that reflect the central tenants of AIDS denialism, including disease denialism beliefs and treatment denialism beliefs. Items were derived from an extensive review of AIDS denialism writings, the mission statements of major AIDS denialist groups, and descriptions of denialism (Kalichman, 2009). The items were responded to on 4-point scales, 1 = "Strongly disagree" to 4 = "Strongly agree". Mean responses across items were used to create an index of AIDS denialism beliefs, alpha = .69.

Interest in AIDS denialism information

To assess interest in AIDS denialism information available on the internet, we adapted an internet rating task used in previous research (Benotsch, Kalichman, & Weinhardt, 2004; Kalichman, et al., 2006). For this measure, webpage stimulus materials were obtained directly from the Internet, including color, image resolution, and text size. We selected two webpages representing AIDS denialist views: (a) Rath International: "*Micronutrients Help Control AIDS*" http://www4.dr-rath-foundation.org/pdf-files/ri_2006_02_en.pdf; summarizes the findings from uncontrolled studies that have been deemed unauthorized and illegal in South Africa. This webpage reports 'clinical proof' that micronutrients improve the health of people living with HIV/AIDS and that antiretroviral medications are toxic and without benefit; (b) Jonathan Campbell; "*A Cure for AIDS?*" <http://www.cqs.com/aids cure.htm> endorses the use of "immune system enhancing nutrients such as vitamin C (in absolutely massive doses) and zinc". This webpage states that the pharmaceutical industry promotes "drugs such as AZT that focus on destroying HIV (meanwhile killing the patient)".

One reputable website was included as a control: Tufts School of Medicine "*Choose Snacks that work for you*" http://www.tufts.edu/med/nutrition-infection/hiv/health_snacks.html; explains the nutritional value of healthy snacks and the health benefits from healthy food choices.

Participants indicated whether they intended to look up additional information from each source and rated each on two dimensions: "How much do you believe this information" and "How much do you trust the information" using 10-point scales ranging from 1 = "Not at all" to 10 = "Very much".

Data analyses

After conducting descriptive analyses, we tested our two main hypotheses. First we examined the association of frequent internet use and endorsing AIDS denialist beliefs. Participants were grouped on the basis of their internet use (a) less than weekly (less frequent internet users) and (b) at least weekly use (more frequent users). Internet use groups were compared on their responses to the individual AIDS denialism indicator items using logistic regressions with 95% confidence intervals (95%CI) controlling for years since testing HIV positive, sexual orientation, years of education, and AIDS knowledge scores. To analyze the website rating task participants were grouped on the basis of their intention to search for more information on the topic. Independent t-tests were performed for each website to test for differences on believability and trust ratings, and on the AIDS denialism belief scale.

We tested our second hypothesis that individuals who endorse a core AIDS denialism belief (e.g., there is a debate among scientists about whether HIV causes AIDS), would demonstrate less use of HIV treatments and poorer health status using logistic regressions, again controlling for years since testing HIV positive, sexual orientation, years of education, and AIDS knowledge scores.

Results

The sample consisted primarily of middle-aged, African American, gay/bisexual men with about 13 years of education and who had tested HIV positive an average of 13 years ago. The sample only includes a relatively small number of mostly African American women. Among the 343 participants, 137 (40%) used the internet at least weekly, 103 (30%) indicated that they never used the Internet with the remaining 103 (30%) using the internet intermittently but not weekly. For the entire sample, common uses of the internet in the previous month included searching for non-HIV related health information (n = 98, 28%) and searching for HIV treatments (n = 74, 21%). In addition, 106 (31%) participants indicated that they had shared information from the internet with a friend in the previous month and 93 (27%) participants indicated that a friend had shared information from the internet.

Table 1 shows the demographic and health characteristics for participants who used the internet less than weekly (less frequent users) and those who used the internet at least weekly (more frequent users). Comparisons showed that frequent internet use was related to gay and bisexual orientations, greater

years of education, greater AIDS-related knowledge, higher CD4 cell counts, and experiencing more HIV symptoms. There were no other significant associations between internet use and demographic and health characteristics.

Table 1

Demographic and health characteristics of people living with HIV who use the Internet less frequently and more frequently.

	Less frequent Internet User (N = 206)		More Frequent Internet User (N = 137)		t
	M	SD	M	SD	
Age	44.9	7.6	43.4	8.1	1.6
Education	12.1	1.9	13.2	1.8	5.1**
Years since testing HIV+	13.1	7.3	13.4	8.9	0.4
AIDS Knowledge (% correct)	67.1	23.7	80.2	18.9	5.5**
HIV symptoms	3.6	3.5	4.5	3.9	2.1*
Number of hospitalizations	1.4	1.6	1.0	1.6	1.9
CD4 cell count	421.6	295.2	528.8	338.6	2.6**
Treatment Adherence	86.6	23.1	91.6	13.9	1.8

	N	%	N	%	X ²
Men	146	71	109	80	
Women	53	26	24	16	
Transgender	6	3	5	4	4.4
African American	192	94	122	90	6.3
Gay/Bisexual	99	49	96	71	18.7**
Undetectable viral load	86	65	73	64	0.1
Taking HIV treatments	116	56	91	66	3.3

Note:

* p < .05

** p < .01

Results showed that AIDS denialism beliefs were common in our sample with more than one in five participants endorsing at least one AIDS denialism belief. Comparisons of less frequent and more frequent internet users indicated a pattern of differences that confirmed our first hypothesis; AIDS denialism beliefs were more often endorsed by more frequent users of the internet. Participants who used the internet at least weekly were significantly more likely to believe that there is a debate among scientists about whether HIV causes AIDS, the central tenant of AIDS denialism. More frequent internet users were also significantly more likely to believe that there is no proof that HIV causes AIDS. More frequent internet users also endorsed treatment denialist beliefs, particularly the notion that HIV is treatable using herbal and non-toxic natural remedies.

Interest in AIDS denialism websites

Ninety-seven (28%) participants indicated that they planned to look up additional information from the AIDS denialist website of Rath International after reading the passage. Participants (N = 128, 37%) also planned to look up additional information from the AIDS denialist website by Jonathan Campbell. As a point of comparison, 147 (42%) planned to look up nutrition information from Tufts Medical School. As expected, believability and trust ratings were higher among participants who planned to look up additional information from each of the three website passages (see [Table 3](#)). Believability and trust ratings for the two AIDS denialist websites were lower than Tuft's medical website.

Table 3

Credibility ratings and AIDS denialism beliefs among people living with HIV/AIDS who do not plan and do plan to look up additional website-related information.

	Does not plan to Look for more information		Plans to look for more information		t
	M	SD	M	SD	
Matthias Rath – “Micronutrients Help Control AIDS”					
N	246		97		
Believes the information	6.1	2.6	7.9	1.9	6.1**
Trusts the information	5.9	2.8	7.9	2.2	6.0**
Denialism Beliefs	1.9	0.5	2.2	0.5	2.3*
Jonathan Campbell - “A Cure for AIDS?”					
N	215		128		
Believes the information	5.8	3.7	7.8	3.4	6.9**
Trusts the information	5.3	2.8	7.3	2.4	6.4**
Denialism Beliefs	1.9	0.5	2.1	0.5	2.3*
Tufts Medical School – “Choose Snacks That Work for You!”					
N	196		147		
Believes the information	7.4	2.5	9.1	1.5	7.2**
Trusts the information	7.1	2.6	9.0	1.6	7.6**
Denialism Beliefs	2.0	0.5	2.1	0.5	1.7

Note:

* p < .05

** p < .01

Participants who planned to look up additional information from Rath International and Jonathan Campbell endorsed greater AIDS denialism beliefs than those not planning to look up additional information. In contrast, the difference between participants who did and did not plan to look up information from the Tufts (control) website did not differ on AIDS denialism beliefs.

AIDS denialism beliefs and health outcomes

Table 5

Reasons for not taking HIV medications among people living with HIV/AIDS in relation to believing that there is a debate among scientists as to whether HIV causes AIDS.

Characteristic	Does not believe there is a debate HIV causing AIDS (N = 81)		Believes there is a debate whether HIV causes AIDS (N = 59)		Adj OR 95%CI	
	N	%	N	%	OR	95%CI
Provider recommendations						
Doctor said to wait	40	49	28	48	1.0	0.5–2.2
T-cells are too high	32	41	19	32	0.5	0.2–1.2
Viral load is too low	24	30	17	29	0.8	0.3–1.9
Doctor said developed resistance	11	14	9	15	1.5	0.4–3.5
Tolerance issues						
Taking a treatment break	20	25	16	27	1.3	0.5–3.1
Medications make me feel sick	8	10	9	15	2.8	0.9–9.4
I cannot afford medications	14	18	9	15	1.0	0.4–2.8
Denialism-related						
Simply do not want to take HIV medications	18	23	19	33	2.3*	1.0–5.3
Do not trust HIV medications and choosing not to take them	13	16	16	28	2.6*	1.1–6.6
Characteristic	N	%	N	%	OR	95%CI

Note: analyses adjusted for years since testing HIV positive, sexual orientation, education, and AIDS knowledge;

* p < .05

** p < .01.

Participant debriefings

We verified participants' understanding of the AIDS denialism beliefs in post-assessment debriefings. We found that participants who endorsed denialism beliefs made a clear distinction between HIV infection and AIDS. One participant explained the difference by stating that a person can be a "carrier" for HIV and never have AIDS. Another participant stated that opportunistic infections, not HIV, cause AIDS. Participants also verified that they had read about a debate among scientists regarding whether

HIV causes AIDS on the internet. Debriefing participants showed that while none identified as 'AIDS dissidents', endorsing AIDS denialism beliefs reflected a sense of hope in that they have HIV infection but may never develop AIDS.

Discussion

Results of the current study indicate that beliefs aligned with AIDS denialism were common in our community sample of people living with HIV/AIDS. Although overall endorsements of multiple denialism beliefs were low, more than one in three participants endorsed the belief that there is a debate among scientists as to whether HIV causes AIDS and one in five agreed with the statement that there is no proof that HIV causes AIDS. Participants also endorsed statements consistent with AIDS denialist views on HIV treatments including that antiretroviral medications do more harm than good. Endorsements of AIDS denialism-related beliefs were similar to those observed in other research with HIV positive men and women (Wald, et al., 2009) and are consistent with findings from community surveys with gay men in major US cities (Hutchinson, et al., 2007). Exit interviews confirmed that participants understood the denialism belief items. Although participants did not represent 'AIDS dissidents' per se, their beliefs suggest a vulnerability to misinformation and fraud.

The association between internet use and AIDS denialism beliefs occurred despite better education and more accurate AIDS knowledge. One potential explanation for this paradoxical finding is that knowledge is not the same as beliefs. More frequent use of the Internet has the potential to expose users to both accurate and false information. In our sample, the internet was commonly used to find treatment information and these internet search functions practically assure exposure to AIDS denialist websites. We found that participants who expressed interest in accessing additional information from recognized AIDS denialism websites also held stronger AIDS denialism beliefs, an association not observed with our control website passage. Trust and believability ratings were also higher than would be expected by the number of denialism beliefs that were endorsed. One explanation for the discrepancy is that participants may have been more willing to endorse trusting information than openly endorsing ideas that clearly fall outside the mainstream. Given the difficulty that many people living with HIV/AIDS face in discriminating quality health information from quackery and fraud online (Benotsch, et al., 2004; Kalichman, et al., 2006), the vulnerability to AIDS denialism among AIDS affected populations is apparent.

The current study is among the first to show adverse health outcomes associated with AIDS denialism beliefs. Controlling for potential confounds, we found that individuals who endorsed the core belief that there is a debate among scientists as to whether HIV causes AIDS were less likely to receive HIV treatments and more likely to refuse medications. Furthermore, participants who believed there is a debate and were being treated with antiretroviral medications were less adherent to their medications. Agreeing that there is a debate about whether HIV causes AIDS was also related to experiencing more HIV-related symptoms and having a detectable viral load. The false hope that comes with believing that scientists do not agree that HIV causes AIDS therefore has the potential to undermine HIV prevention and treatment.

The findings from this study should be interpreted in light of its methodological limitations. With the exception of medication adherence which was monitored using an objective and prospective assessment, our study methods relied on cross-sectional self-reported health and behavior. Our cross-sectional study design precludes any causal or directional conclusions. The content of our measures may also have influenced the findings. Specifically, our measure of AIDS knowledge was brief and did not necessarily include items most central to AIDS denialism propaganda. The limited scope of our AIDS knowledge test may have contributed to the observed discordance between knowledge and beliefs. The internal consistency of our knowledge and denialism belief scales were marginal, indicating heterogeneity in the item content. We also used a single core belief to group participants into

denialism belief groups rather than using an arbitrary cut score on the aggregate belief score. Our measures also may have excluded important covariates that could have helped explain the results, such as substance use and medication side effects. It is also unknown whether responding to the study measures inadvertently stimulated interest or reinforced denialism beliefs. Finally, our results are based on a convenience sample that is predominantly middle-aged, African American, gay/bisexual men living with HIV/AIDS in one southern US city. Although our results converge with other studies ([Wald, et al., 2009](#)), caution is warranted before generalizing these findings to other populations of people living with HIV/AIDS.

The results of this study highlight the complexity of HIV disease and the difficulty many patients experience in trying to understand their diagnosis. Simple measures of AIDS knowledge, such as the one used in this study, may fail to capture the nuances and subtle aspects of misinformation. Determining the trustworthiness of information sources is also problematic, with labels and credentials easily confused for credibility. Because the current study did not examine the origins of AIDS denial, future research is needed to trace the individual and cultural roots of denialism beliefs. Further research is needed on how vulnerable patients understand their diagnoses, interpret health information, and format health beliefs. Mixed designs of qualitative and quantitative research may be particularly useful in gaining insight into these cognitive and affective processes.

Openly discussing the baseless views of AIDS denialists and exposing the pseudoscience behind AIDS denialism is key to diluting its impact. Individuals exposed to the false hope that their HIV positive test result is meaningless may reject these claims if they are aware of the source and recognize they are false. Improving critical thinking skills among people who use the internet to seek health information is essential to reducing the harms of AIDS denialism. Interventions aimed at improving internet health consumer skills have demonstrated positive effects and can directly address AIDS denialism ([Kalichman, et al., 2006](#)). Finally, providers should discuss the evidence-base for HIV treatments and standards of care with their patients. Leaving patients on their own to determine the quality of health information they encounter on the Internet leaves many vulnerable to misinformation, denialism and fraud. Ignoring AIDS denialism undermines our best efforts to test, engage, and care for people living with HIV/AIDS.

Table 2

Percent agreement (somewhat or strongly) with AIDS denialism beliefs among people living with HIV/AIDS who use less frequently and more frequently use the internet.

Beliefs	Less frequent Internet User (N = 206)		More Frequent Internet User (N = 137)		Adj OR	95%CI
	N	%	N	%		
Disease Denialism Beliefs						
There is a debate among scientists about whether HIV causes AIDS.	65	32	58	42	1.4 ^{**}	1.1–1.8
There is no proof that HIV causes AIDS.	42	20	35	26	1.3 [*]	1.0–1.7
AIDS can be caused by Malnutrition even if you do not have HIV.	29	14	18	13	1.1	0.8–1.4
African AIDS is a different Disease than American AIDS	53	26	38	28	1.1	0.6–1.8
“Viral load” tests do not measure the actual virus in the blood.	51	25	58	42	1.1	0.8–1.4
Treatment Denialism Beliefs						
Medications used for treating HIV are toxic.	123	59	103	75	1.2	0.9–1.5
HIV treatments do more harm than good.	45	22	34	25	1.2	0.9–1.5
Herbal and natural remedies can cure AIDS in some people.	62	30	46	34	1.3 [*]	1.0–1.7
HIV is treatable using non-toxic, natural immune boosters.	79	38	67	49	1.3 [*]	1.0–1.6
Mean (SD) denialism beliefs	2.9	2.0	3.5	1.8	1.2 ^{**}	1.0–1.3

Note: analyses adjusted for years since testing HIV positive, sexual orientation, education, and AIDS knowledge;

* p < .05

** p < .01

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Harold Brown Jr. <hsbrown68@gmail.com>

FW: No HIV transmission in serodiscordant MSM couples

1 message

Samir Parmar <SParmar@marionhealth.org>
To: "hsbrown68@gmail.com" <hsbrown68@gmail.com>

Mon, May 6, 2019 at 8:16 AM

FYI

Sam Parmar, MPH
Epidemiologist
Marion County Public Health Department
3901 Meadows Drive
Indianapolis, IN 46205
(317) 221-3556 (Office)

From: Michael Butler
Sent: Friday, May 03, 2019 11:38 AM
To: Coya Campbell; Samir Parmar; Francesca Hail; Lisa Robinson; Portia Duff; Alisha Cade-Hooks; Jill Carr; Ibrahim Dandakoye; Kellie Roberts; Shamika Crowder
Subject: FW: No HIV transmission in serodiscordant MSM couples

Interesting study. More support for U=U.

See link below.

Michael S. Butler
Director
Ryan White/HIV Services Program
317-221-3554

From: Farmer, Eric K [mailto:efarmer1@IUHealth.org]
Sent: Friday, May 3, 2019 8:25 AM
To: Michael Butler
Subject: No HIV transmission in serodiscordant MSM couples

From: Farmer, Eric K <efarmer1@IUHealth.org>

Sent: Friday, May 3, 2019 8:14 AM

To: Hahn, Julie A <jhahn@IUHealth.org>; Bomkamp, John P <jbomkamp@IUHealth.org>; Derringer, Jon T <jderringer@IUHealth.org>; Castek, Shannon L <scastek@IUHealth.org>; Jarrell, Kaitlyn E <kjarrell@IUHealth.org>; Tommy Kleyn <thomas.kleyn@eskenazihealth.edu>; Peters, Jacob <jpeters14@IUHealth.org>; Gunter, Tracy D. (IU) <tdgunter@iupui.edu>; O'Connor Gading, Aimee I <AOconnor1@IUHealth.org>; Albert, Bev A <balbert@IUHealth.org>; Bonham, Kyle W <kbonham@IUHealth.org>; Borum, Julie <jborum1@IUHealth.org>; Delmolino, Shawn N <sdelmolino@IUHealth.org>; Farmer, Eric K <efarmer1@IUHealth.org>; Fiel, Fil <ffiel@IUHealth.org>; Hardin, Brenda L <bhardin@IUHealth.org>; Huesgen, Emily C <ehuesgen@IUHealth.org>; Miller, Jessica B <jmiller32@IUHealth.org>; Jessica Murillo <jmurillo1@iuhealth.org>; Johnson, Loretta E <ljohnson@IUHealth.org>; King, Angela R <aking3@IUHealth.org>; Combs, Kristi S <kcombs7@IUHealth.org>; Sullivan, Kylie J <ksullivan3@IUHealth.org>; Loaiza, Yesenia <yloaiza@IUHealth.org>; Reese, Marc L <mreese1@IUHealth.org>; Cullivan, Marjorie E <mcullivan@IUHealth.org>; Greenwald, Martha L <MGreenwald@IUHealth.org>; Martin, Shelby A <smartin28@IUHealth.org>; Mathis, Joscelyn E <jmathis2@IUHealth.org>; Morningstar, Jen M <jmorningstar@IUHealth.org>; Murry, Avery L <amurry@IUHealth.org>; Messer, Nicole R <nmesser@IUHealth.org>; Richmond, Irene J <irichmond@IUHealth.org>; Santoro, Linda J <LSantoro@IUHealth.org>; Shuck, Elizabeth S <eshuck@IUHealth.org>; Smith, Christian S <csmith11@IUHealth.org>; Draper, Stacey L <sdraper1@IUHealth.org>; Stevens, Brooke N <bstevens3@IUHealth.org>; Taelman, Kate P <ktaelman@IUHealth.org>; Wiley, Sylvia M <swiley@IUHealth.org>; Youssef-Hatch, Betina A <BHatch@IUHealth.org>

Subject: No HIV transmission in serodiscordant MSM couples

Finally, results of the PARTNER (1 & 2) study are published. This is the equivalent of the HPTN052 study for heterosexual serodiscordant couples.

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30418-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30418-0/fulltext)

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5/7/2019

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