

# Supplementary material

## File 1. Systematic review protocol

### 1 A systematic review of HIV/STI prevention interventions and evidence of their effectiveness

**Description of the overall approach and strategy** – Our overall objective is to conduct a systematic review of prevention interventions to assess their effectiveness in reducing transmission of HIV and sexually transmitted diseases among people living with HIV/AIDS. Specifically, this review will identify main types of primary prevention interventions addressing HIV/STIs including: HIV, hepatitis B and C, syphilis, gonorrhea, chlamydia, genital or anal warts, genital herpes, trichomoniasis, human papillomavirus (HPV) and lymphogranuloma venereum (LGV). We will summarize and assess effectiveness and quality of available evidence. Evidence captured in the project will inform further research to assess and develop best practices and knowledge translation initiatives specific to HIV/STI prevention initiatives.

### 2 Description of the methodologies and techniques to be used

#### Literature search

Our comprehensive search strategy will involve a search of electronic databases specific to medical and health sciences literature. We will identify literature published since 1998 using the most relevant databases: MEDLINE, Embase, and PsycINFO. We will also search databases that focus on providing systematic reviews (Cochrane Library, Database of Abstracts of Reviews of Effects and [www.HealthEvidence.org](http://www.HealthEvidence.org)). Lists of references of identified systematic reviews will be manually searched and cross-checked for inclusion. All searches will be refined to ensure optimal efficiency – all details of searches conducted will also be systematically documented for future reference. We will also use an internet search strategy to obtain additional literature. Google Scholar [www.scholar.google.ca](http://www.scholar.google.ca) will be searched (the first 10 pages for each STI search results).

#### Selection criteria

We will use the following selection criteria for inclusion of publications:

1. Must assess the effectiveness of a prevention intervention to reduce transmission of HIV/STIs, excluding studies addressing PrEP (pre-exposure prophylaxis), PEP (post-exposure prophylaxis), Treatment as Prevention, HIV/STI testing, prevention of mother-to-child
2. transmission, microbicides, male circumcision, or vaccination/immunization;
3. Study sample must consist be at least 75% HIV-positive;
4. Interventions must be undertaken in high income countries defined by World Bank's list of high income economies;
5. Intervention must be a randomized controlled trial or a non-randomized trial with a control group (quasi-experiment);
6. Publication date must be since 1998.

#### Reference reviewing

We will review titles and abstracts of all references captured in our literature search. Each reference will be assessed by two reviewers. References will first be classified as “include,” “exclude” or “unclear.” Once all titles and abstracts are reviewed, we will retrieve all full-text publications classified as “include” or “unclear” to make a final assessment of their inclusion in the review by two reviewers. Any disagreements will be resolved by consensus or a third reviewer.

#### Data extraction

We will extract information from each included publication. Data will be extracted by one reviewer and verified by a second. Specifically we will extract the following information: type of primary HIV/STI prevention intervention; author; publication year; objective(s); jurisdiction (country); study design, STI addressed; effectiveness of the intervention (statistical data). Once complete, a summary table including all information mentioned above will be created and categorized by type of HIV/STI prevention intervention.

Assessment of effectiveness of prevention interventions

The US CDC categorization of behavioral interventions will be used to classify interventions.

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**Intervention Categories and Definitions**


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**Health Education and Risk Reduction****---Individual Level Intervention**

Intervention with a skills component provided to one person at a time.

**---Group Level Intervention**

Intervention with a skills component provided to more than one person at a time.

**---Community Level Intervention**

Activities that attempt to improve risk conditions, affect systems, and/or influence norms in a *specific community* of persons with identified shared risk behaviors for HIV infection and which may also be defined by race/ethnicity, gender or sexual orientation.

**Outreach, including Internet Outreach**

Face-to-face or Internet-based interventions with high-risk individuals conducted in places or on websites where those individuals meet. Outreach is conducted for the purpose of recruiting clients into prevention or care services, as needed, as well as for the distribution of risk reduction supplies in the face-to-face settings.

**Health Communication/Public Information**

The delivery of HIV prevention messages through one or more channels (in person to large groups, through print materials, on hotlines, on the radio or television, via the Internet) to target audiences.

**Counseling, Testing & Referral Services, including Community Based Counseling & Testing**

HIV counseling and testing delivered in public health department sites and community-based (i.e., non-public health department) settings in order to increase the numbers of persons who know their HIV status and, if positive, then can be linked into care and prevention services.

**Partner Services**

A systematic approach to notifying sex and needle-sharing partners of HIV-infected persons of their possible exposure to HIV so they can avoid infection or, if already infected, can prevent transmission to others. Partner services help partners gain earlier access to individualized counseling, HIV testing, medical evaluation, treatment, and other prevention services.

**Comprehensive Risk Counseling and Services**

Client-centered, intensive, long-term, prevention-based, comprehensive counseling conducted with HIV positive persons or high risk negative persons for the purpose of preventing HIV transmission from self to others or personal avoidance of HIV infection or repeat infection.

**Capacity Building**

Activities for strengthening the public health HIV prevention infrastructure for systems to ensure the quality of services, improve the ability to assess community needs and provide technical assistance in all aspects of program planning and operations.

**Social Networking Strategies**

Community-based strategies used to identify persons with undiagnosed HIV infection within various networks and link them to medical care and prevention services.

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Studies will be grouped by intervention category, comparison group, and outcome. Effectiveness will be assessed by meta-analyses. We will classify comparison groups two ways: attention controls (comparing the effectiveness of the intervention with no intervention or with general health information) or active controls (comparing the effectiveness of the intervention with another HIV/STI prevention intervention). We will have three different outcomes: change in HIV/STI incidence; change in self-reported or observed risk behaviour; change in knowledge, attitudes and beliefs regarding the HIV/STI prevention.

Assessment of quality of available evidence

We will assess the quality of available evidence of the effectiveness of each type of intervention separately, using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) tool.<sup>1</sup>

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1 GRADE Working Group. Grading quality of evidence and strength of recommendations. *BMJ*. 2004;328(7454):1490-4.

### 3 Criteria for assigning grade of evidence [GRADE Working Group. Grading quality of evidence and strength of recommendations. BMJ. 2004;328(7454):1490-4]

Type of evidence	Randomized trial = high Observational study = low Any other evidence = very low
Decrease* grade if	<ul style="list-style-type: none"> <li>• Serious or very serious limitation to study quality</li> <li>• Important inconsistency</li> <li>• Some or major uncertainty about directness</li> <li>• Imprecise or sparse data</li> <li>• High probability of reporting bias</li> </ul>
Increase grade if	<ul style="list-style-type: none"> <li>• Strong evidence of association—significant relative risk of <math>&gt;2</math> (<math>&lt;0.5</math>) based on consistent evidence from two or more observational studies, with no plausible confounders (+1)</li> <li>• Very strong evidence of association—significant relative risk of <math>&gt;5</math> (<math>&lt;0.2</math>) based on direct evidence with no major threats to validity (+2)</li> <li>• Evidence of a dose response gradient (+1)</li> <li>• All plausible confounders would have reduced the effect (+1)</li> </ul>
Range	High quality evidence Moderate quality evidence Low quality evidence Very low quality evidence
*	Each quality criteria can reduce the quality by one or, if very serious, by two levels.

Each intervention will be assigned one of the following grades of quality of evidence: *High*: Further research is very unlikely to change our confidence in the estimate of effect; *Moderate*: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate; *Low*: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate; *Very low*: Any estimate of effect is very uncertain.

To assess the quality of randomized-controlled trials as part of the GRADE assessment (along with study design, consistency and directness), the Cochrane Risk of Bias Assessment tool will be used.<sup>2</sup>

<sup>2</sup> Higgins JP, Altman DG, Gøtzsche PC, Jüni P, Moher D, Oxman AD, Savovic J, Schulz KF, Weeks L, Sterne JA; Cochrane Bias Methods Group; Cochrane Statistical Methods Group. The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. BMJ. 2011;18(343):d5928.

## File 2. CDC-defined HIV prevention intervention categories

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### Intervention Categories and Definitions

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#### Health Education and Risk Reduction

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##### ---Individual Level Intervention

Intervention with a skills component provided to one person at a time.

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##### ---Group Level Intervention

Intervention with a skills component provided to more than one person at a time.

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##### ---Community Level Intervention

Activities that attempt to improve risk conditions, affect systems, and/or influence norms in a *specific community* of persons with identified shared risk behaviors for HIV infection and which may also be defined by race/ethnicity, gender or sexual orientation.

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#### Outreach, including Internet Outreach

Face-to-face or Internet-based interventions with high-risk individuals conducted in places or on websites where those individuals meet. Outreach is conducted for the purpose of recruiting clients into prevention or care services, as needed, as well as for the distribution of risk reduction supplies in the face-to-face settings.

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#### Health Communication/Public Information

The delivery of HIV prevention messages through one or more channels (in person to large groups, through print materials, on hotlines, on the radio or television, via the Internet) to target audiences.

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#### Counseling, Testing & Referral Services, including Community Based Counseling & Testing

HIV counseling and testing delivered in public health department sites and community-based (i.e., non-public health department) settings in order to increase the numbers of persons who know their HIV status and, if positive, then can be linked into care and prevention services.

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#### Partner Services

A systematic approach to notifying sex and needle-sharing partners of HIV-infected persons of their possible exposure to HIV so they can avoid infection or, if already infected, can prevent transmission to others. Partner services help partners gain earlier access to individualized counseling, HIV testing, medical evaluation, treatment, and other prevention services.

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#### Comprehensive Risk Counseling and Services

Client-centered, intensive, long-term, prevention-based, comprehensive counseling conducted with HIV positive persons or high risk negative persons for the purpose of preventing HIV transmission from self to others or personal avoidance of HIV infection or repeat infection.

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#### Capacity Building

Activities for strengthening the public health HIV prevention infrastructure for systems to ensure the quality of services, improve the ability to assess community needs and provide technical assistance in all aspects of program planning and operations.

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#### Social Networking Strategies

Community-based strategies used to identify persons with undiagnosed HIV infection within various networks and link them to medical care and prevention services.

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## File 3. Search Strategy

### Ovid MEDLINE(R) without Revisions <1996 to September 3 Week 2015>

- 1 exp Primary prevention/ (59250)
- 2 exp HIV/ or HIV.mp. or exp HIV Infections/ (223464)
- 3 exp Sexually Transmitted Diseases/ (170702)
- 4 exp Hepatitis B/ or exp Hepatitis C/ (59309)
- 5 exp Syphilis/ (5424)
- 6 exp Gonorrhea/ (3379)
- 7 exp Chlamydia Infections/ or exp Chlamydia/ (10402)
- 8 exp Papillomavirus Infections/ (17664)
- 9 warts/ or condylomata acuminata/ (3403)
- 10 exp Herpes Genitalis/ (2451)
- 11 exp Trichomonas Infections/ or exp Trichomonas/ or exp Trichomonas vaginalis/ (2077)
- 12 exp Lymphogranuloma Venereum/ (384)
- 13 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 (313167)
- 16 1 and 13 (6012)
- 17 limit 16 to (english language and humans and yr="1998 -Current") (4929)

### Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations < September 29, 2015>

- 1 prevent\$.mp. (72591)
- 2 HIV.mp. (13446)
- 3 Sexually Transmitted Disease\*.mp. (491)
- 4 Hepatitis B.mp. (3582)
- 5 Hepatitis C.mp. (4312)
- 6 Syphilis.mp. (1870)
- 7 Gonorrhea.mp. (259)
- 8 gonorrhoea.mp. (283)
- 9 Chlamydia.mp. (795)
- 10 Papillomavirus.mp. (1707)
- 11 (wart\* or condyloma\*).mp. (877)
- 12 genital herpes.mp. (102)
- 13 trichomon\*.mp. (301)
- 14 (Lymphogranuloma or LGV).mp. (108)
- 15 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 (25003)
- 16 1 and 15 (3927)
- 17 limit 16 to (english language and yr="1998 - 2015") (2641)

### PsycINFO <1806 to September Week 3 2015>

- 1 exp Prevention/ or prevent\*.mp (116648)
- 2 exp HIV/ (30389)
- 3 exp Hepatitis/ (1761)
- 4 exp Syphilis/ (400)
- 5 exp Gonorrhea/ (127)
- 6 exp Herpes Genitalis/ (133)
- 7 exp Sexually Transmitted Diseases/ (32742)
- 8 2 or 3 or 4 or 5 or 6 or 7 (34079)
- 9 1 and 8 (8934)
- 10 limit 9 to (human and english language and yr="1998 -Current") (6449)

**Embase <1980 to 2015 Week 39>**

- 1 exp Primary prevention/ or prevent\$.mp. (1344059)
- 2 exp human immunodeficiency virus/ (136926)
- 3 exp hepatitis/ or exp hepatitis C/ or exp hepatitis B/ (212246)
- 4 exp syphilis/ (23582)
- 5 exp gonorrhea/ (14254)
- 6 exp chlamydia/ (17891)
- 7 exp papilloma/ or exp Papilloma virus/ (46943)
- 8 exp condyloma acuminatum/ or exp condyloma/ (9371)
- 9 exp genital herpes/ (4891)
- 10 exp Trichomonas vaginalis/ or exp Trichomonas/ (6969)
- 11 exp lymphogranuloma venereum/ (1409)
- 12 exp sexually transmitted disease/ (76406)
- 13 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 (466434)
- 14 1 and 13 (52919)
- 15 limit 14 to (human and english language and yr="1998 - 2015") (13029)

**The Cochrane Database of Systematic Reviews**

Search term Prevention from 1998 to 2015, in Cochrane Reviews (Reviews only) (Word variations have been searched)

There are 858 results for your search on 'prevention in title abstract keywords from 1998 to 2015 in Cochrane Reviews'

**Centers for Disease Control and Prevention's Compendium of Evidence-Based HIV Behavioral Interventions**

[www.cdc.gov/hiv/prevention/research/compendium](http://www.cdc.gov/hiv/prevention/research/compendium)

40 results

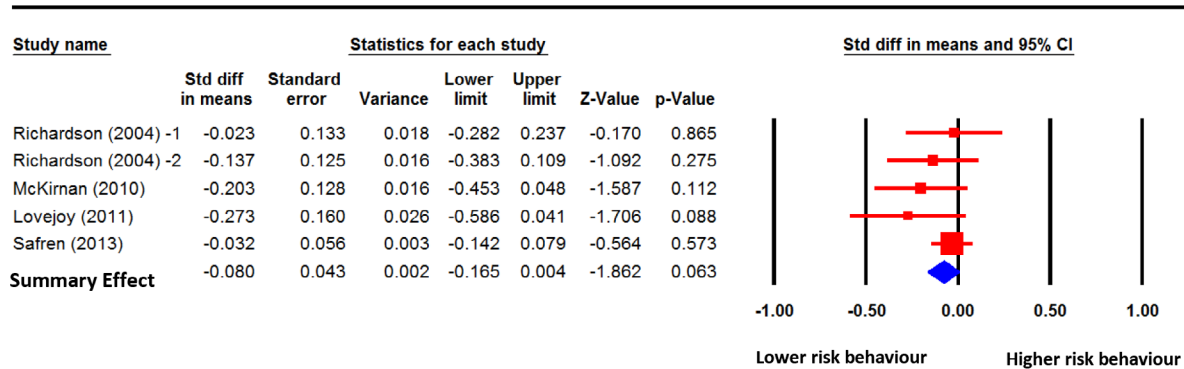
**Effective Interventions** [www.effectiveinterventions.org](http://www.effectiveinterventions.org)

20 results

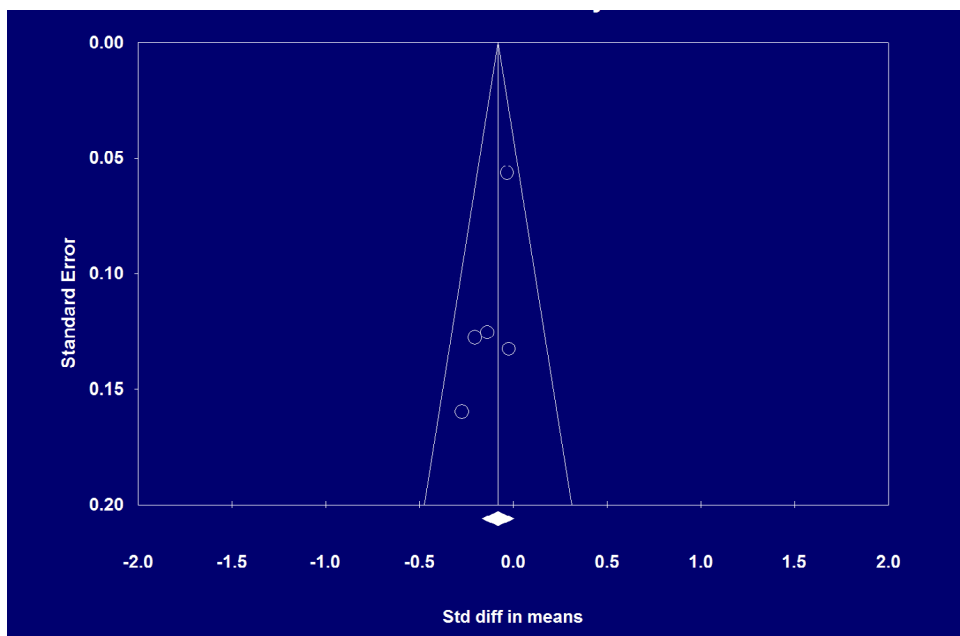
## File 4. HIV/STI Prevention Interventions for People Living with HIV in High Income Settings: A Systematic Review and Meta-Analysis

### Meta-analyses by Intervention types, Comparison groups and Outcomes

**I1-C1-O3 (n=4)** I1: Health Education and Risk Reduction – individual Level Intervention, C1: Attention control, O3: risk behavior



Health Education and Risk Reduction – individual Level Intervention can reduce risk behaviors among people living with HIV/AIDS.

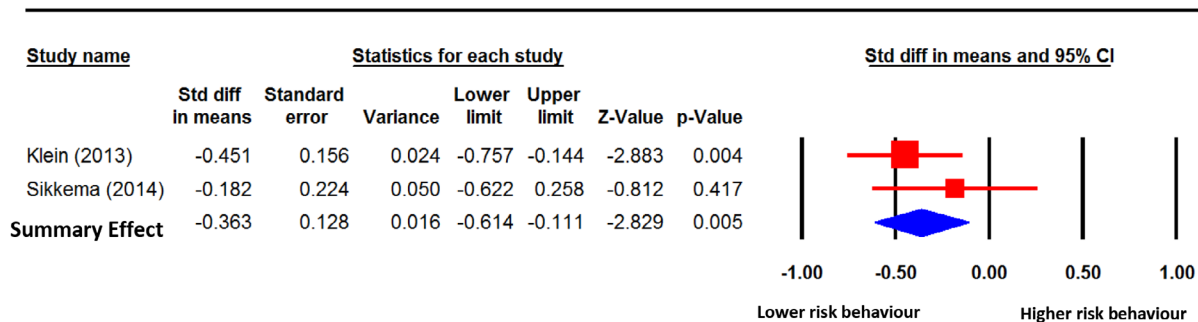


**Message:** there is no publication bias

Heterogeneity			
Q-value	df (Q)	P-value	I-squared
3.501	4	0.478	0.000

There is no between study heterogeneity.

**I1-C2-03 (n=2)** I1: Health Education and Risk Reduction – individual Level Intervention, C2: Another intervention group as control, O3: risk behavior

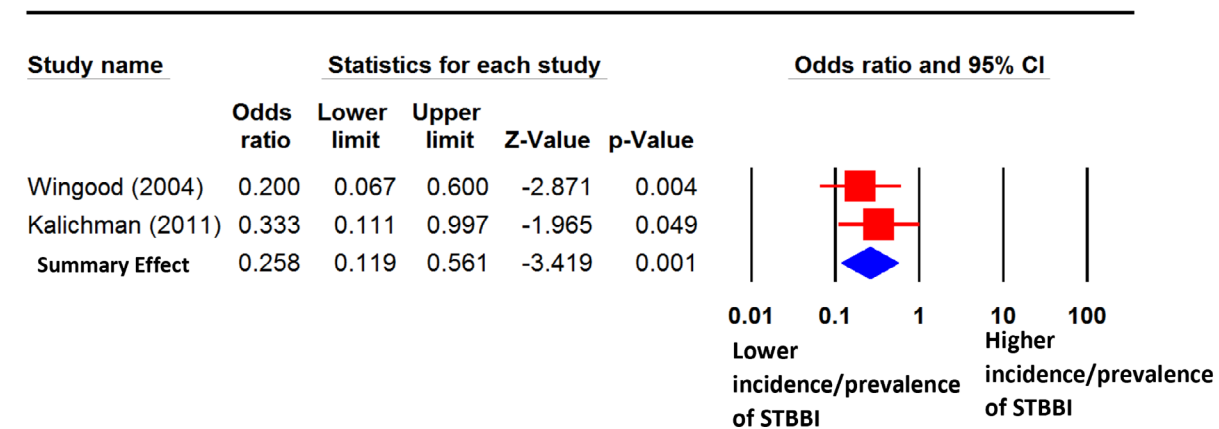


Health Education and Risk Reduction – group Level Intervention can reduce risk behaviors among people living with HIV/AIDS.

Heterogeneity			
Q-value	df (Q)	P-value	I-squared
0.965	1	0.326	0.000

There is no between study heterogeneity.

**I2-C1-01 (n=2)** I2: Health Education and Risk Reduction – group level intervention, C1: Attention control, O1: HIV/STI incidence



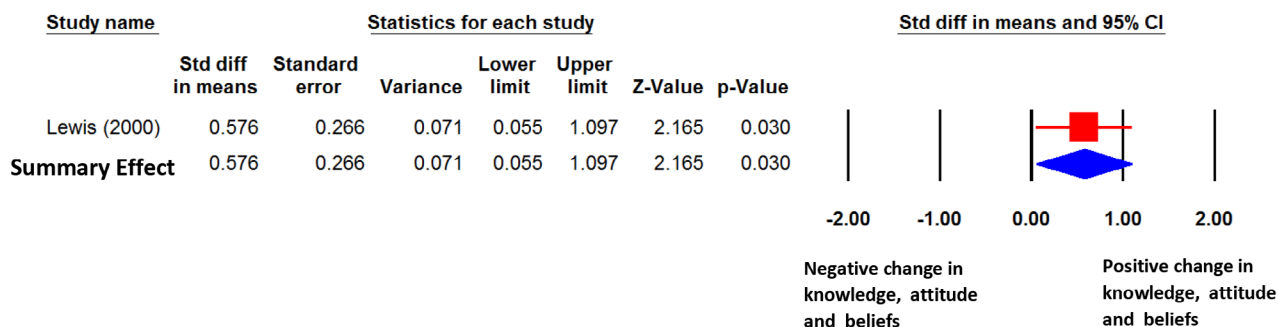
Health Education and Risk Reduction – group level intervention can reduce the incidence/prevalence of STBBI among people living with HIV/AIDS.

Heterogeneity			
Q-value	df (Q)	P-value	I-squared
0.416	1	0.519	0.000

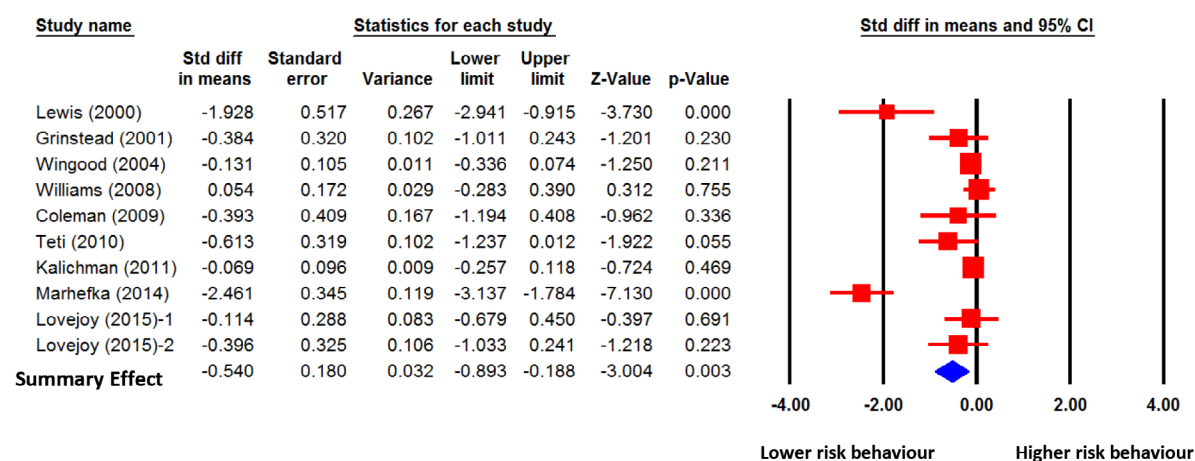
There is no between study heterogeneity.



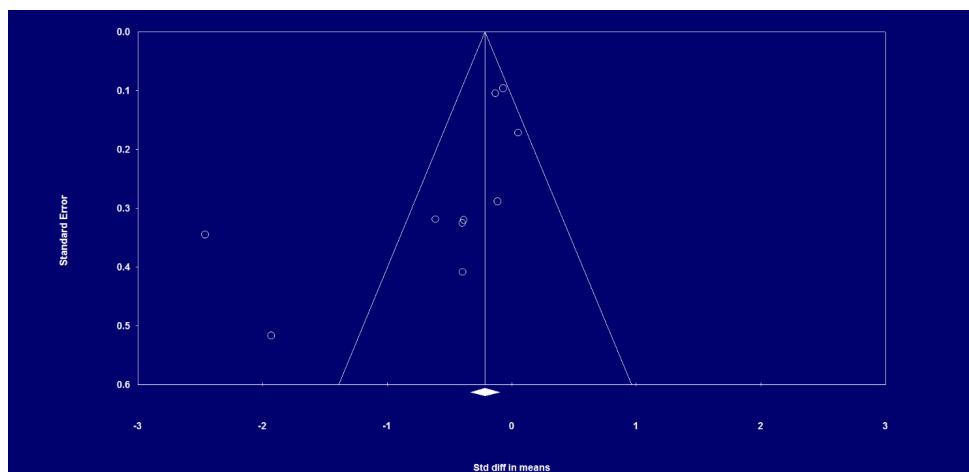
**I2-C1-O2 (n=1)** I2: Health Education and Risk Reduction – group level intervention, C1: Attention control, O2: knowledge, attitude, behavior



**I2-C1-O3 (n=9)** I2: Health Education and Risk Reduction – group level intervention, C1: Attention control, O3: risk behavior



Health Education and Risk Reduction – group level intervention can reduce risk behaviors among people living with HIV/AIDS.

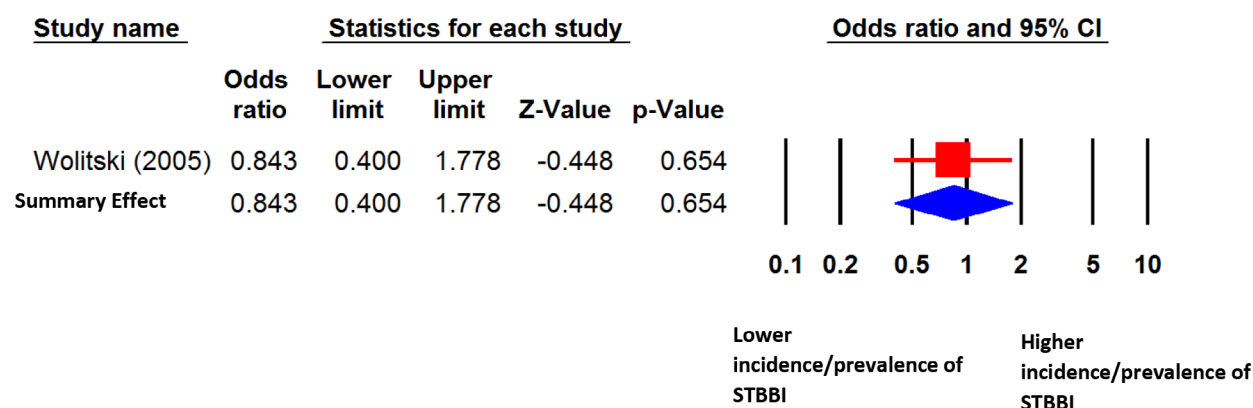


**Messages:** There is a publication bias

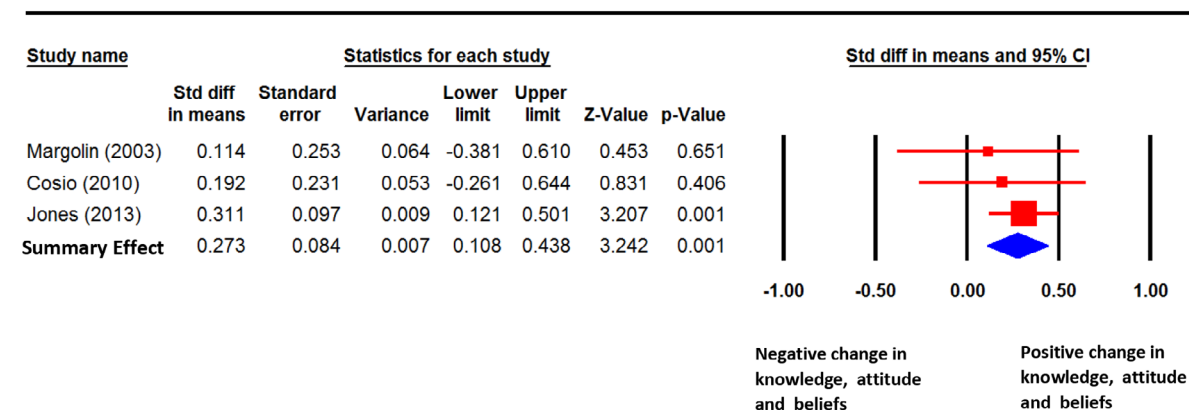
Heterogeneity			
Q-value	df (Q)	P-value	I-squared
59.576	9	0.000	84.893

There is between study heterogeneity.

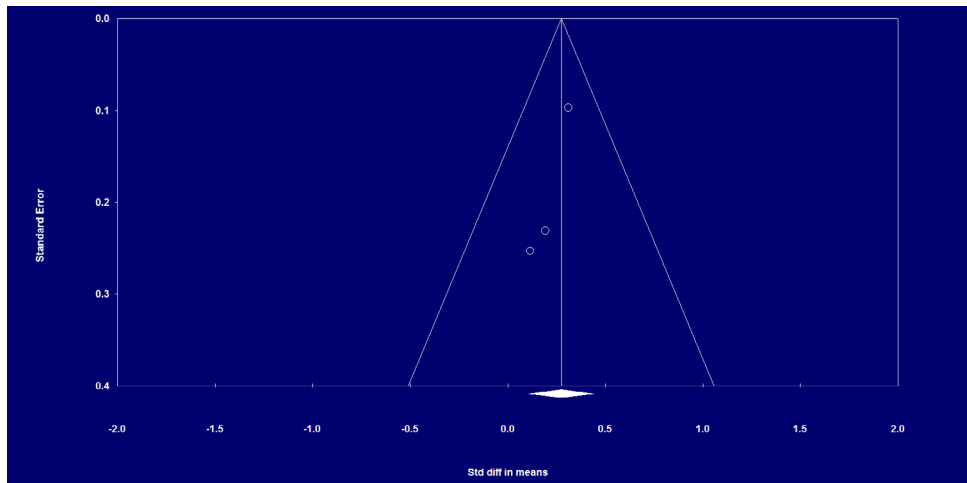
**I2-C2-01 (n=1)** Health Education and Risk Reduction – group level intervention, C2: Another intervention as comparison, O1: HIV/STI incidence



**I2-C2-02 (n=3)** I2: Health Education and Risk Reduction – group level intervention, C2: Another intervention as comparison, O2: knowledge, attitude, behavior



Health Education and Risk Reduction – group level intervention can increase the positive changes in knowledge, attitude and beliefs among people living with HIV/AIDS.

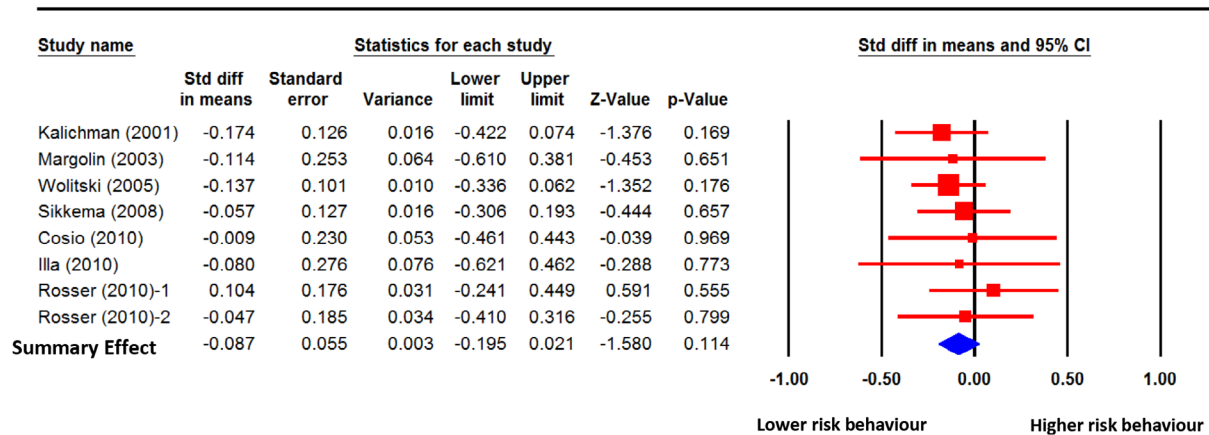


**Messages:** There is no publication bias

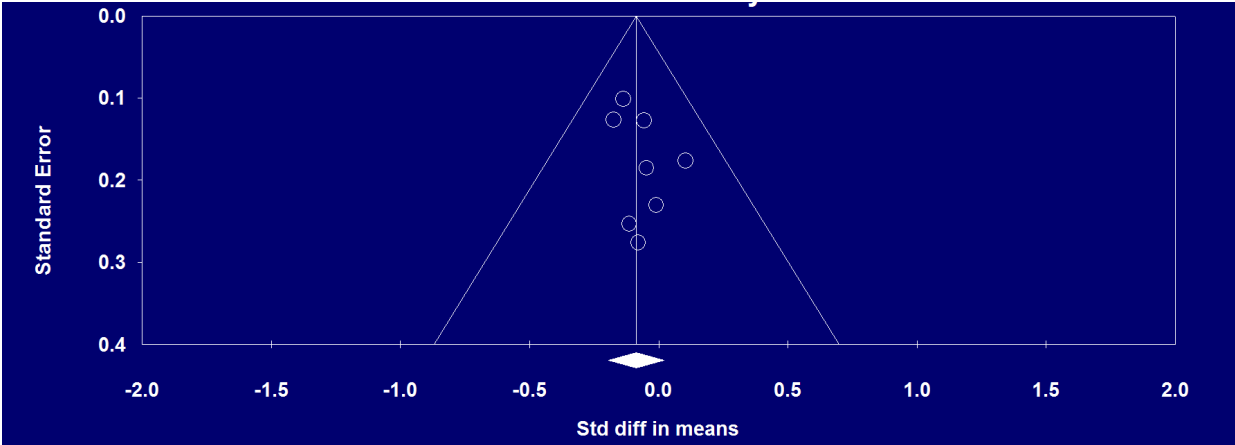
Heterogeneity			
Q-value	df (Q)	P-value	I-squared
0.667	2	0.716	0.000

There is no between study heterogeneity.

**I2-C2-O3 (n=7)** I2: Health Education and Risk Reduction – group level intervention, C2: Another intervention as comparison, O3: risk behavior



Health Education and Risk Reduction – group level intervention can reduce the risk behaviours among people living with HIV/AIDS.

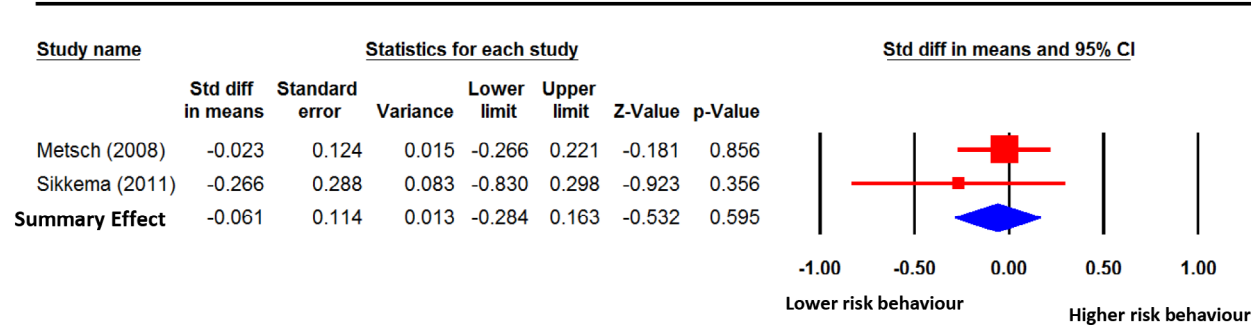


**Messages:** There is no publication bias

Heterogeneity			
Q-value	df (Q)	P-value	I-squared
2.124	7	0.953	0.000

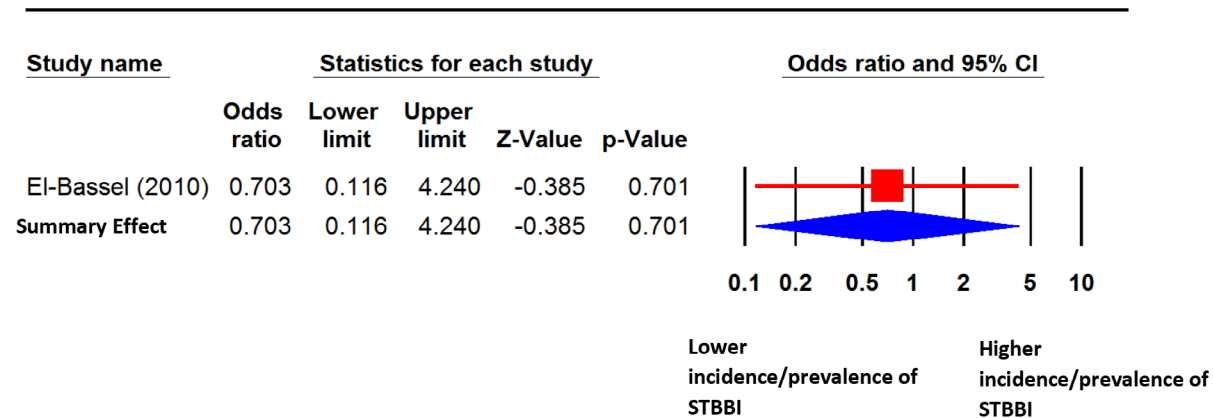
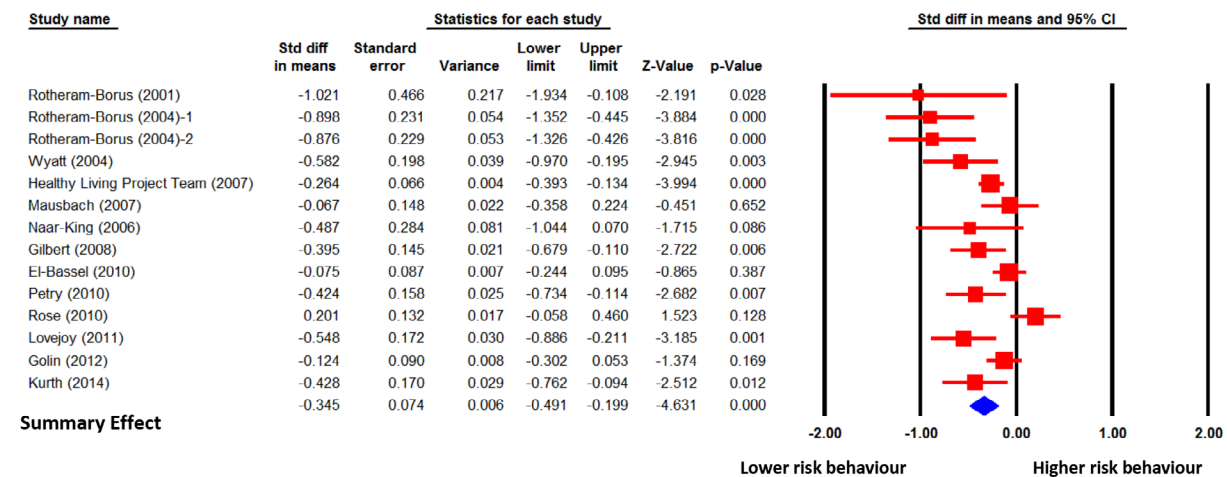
There is no between study heterogeneity.

**I6-C1-O3 (n=2)** I6: Counseling, Testing & Referral Services, including Community Based Counseling & Testing, C2: Another intervention group as control, O3: risk behaviour

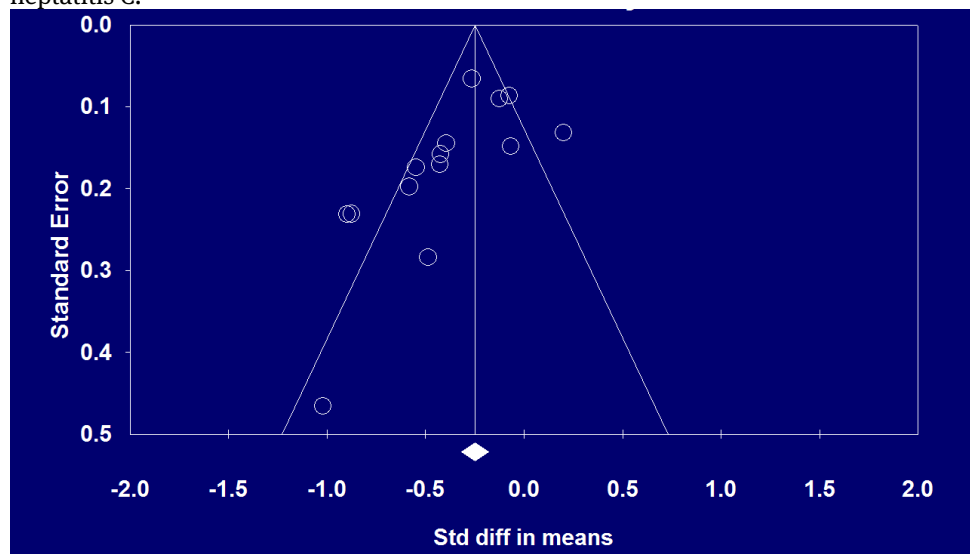


Heterogeneity			
Q-value	df (Q)	P-value	I-squared
0.601	1	0.438	0.000

There is no between study heterogeneity.

**I8-C1-01 (n=1)** I8: Comprehensive risk counseling and services, C1: Attention control, O1: HIV/STI incidence**I8-C1-03 (n=13)** I8: Comprehensive risk counseling and services, C1: Attention control, O3: risk behaviour

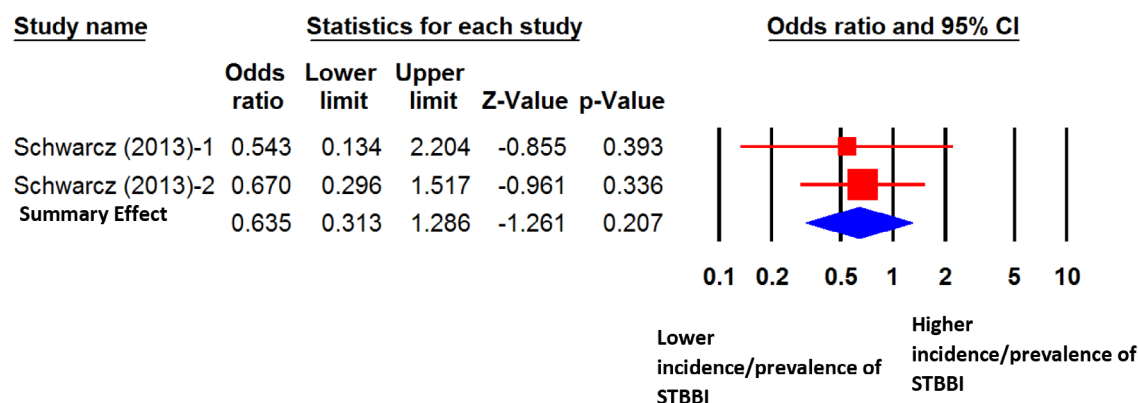
Comprehensive risk counseling and services can reduce risk behaviour among people living with HIV/AIDS and/or hepatitis C.



Messages: There is publication bias

Heterogeneity			
Q-value	df (Q)	P-value	I-squared
46.96	13	0.000	72.318

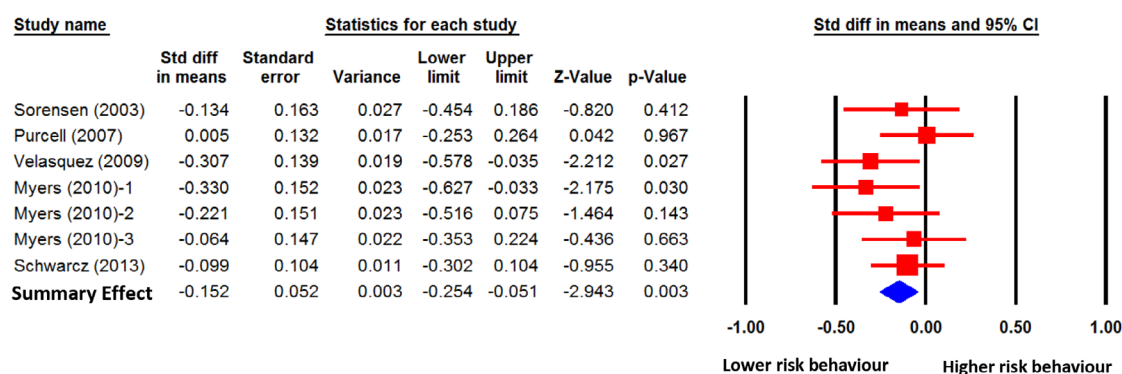
**I8-C2-01 (n=1)** I8: Comprehensive risk counseling and services, C2: Another intervention as comparison, O1: HIV/STI incidence



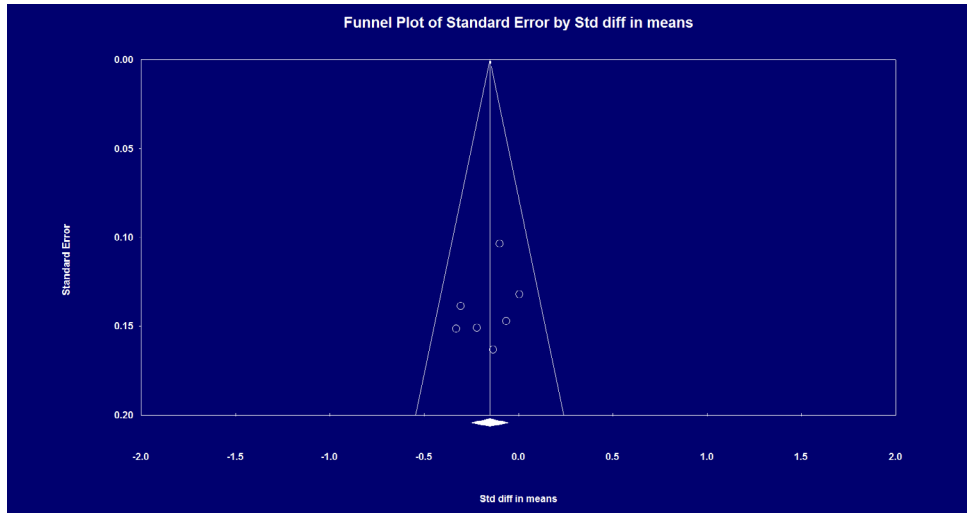
Heterogeneity			
Q-value	df (Q)	P-value	I-squared
0.064	1	0.800	0.000

There is no between study heterogeneity.

**I8-C2-03 (n=5)** I8: Comprehensive risk counseling and services, C2: Another intervention as comparison, O3: risk behavior



Comprehensive risk counseling and services can reduce risk behaviours among people living with HIV/AIDS and/or hepatitis C.

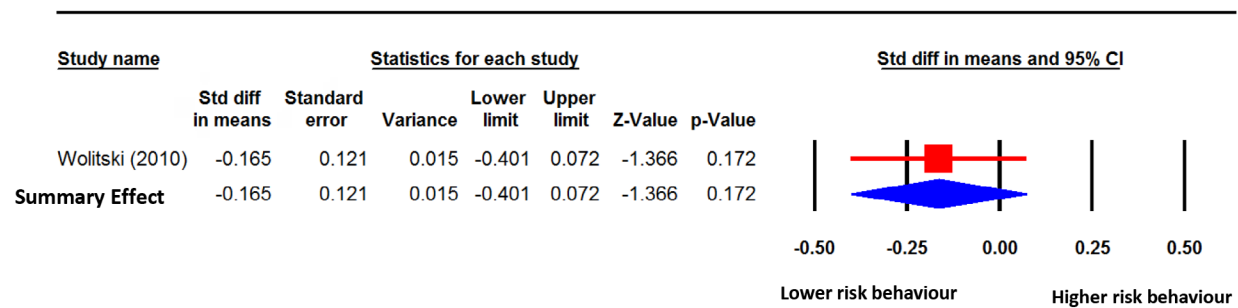


Messages: There is no publication bias

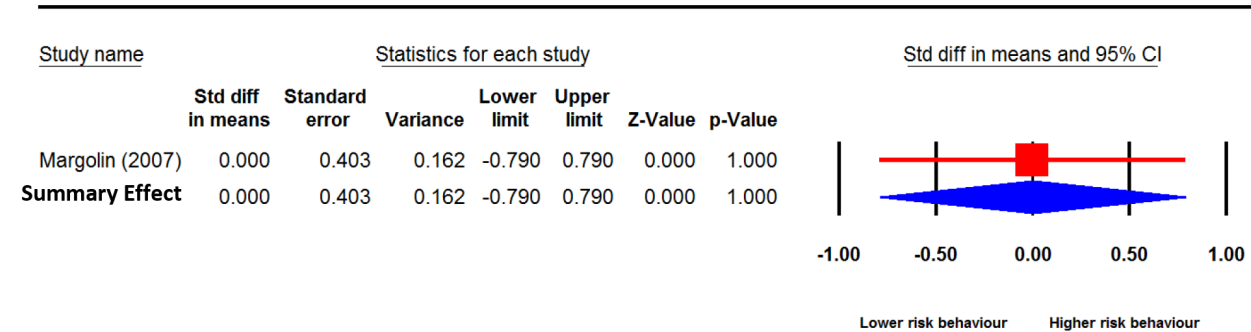
Heterogeneity			
Q-value	df (Q)	P-value	I-squared
4.879	6	0.559	0.000

There is no between study heterogeneity.

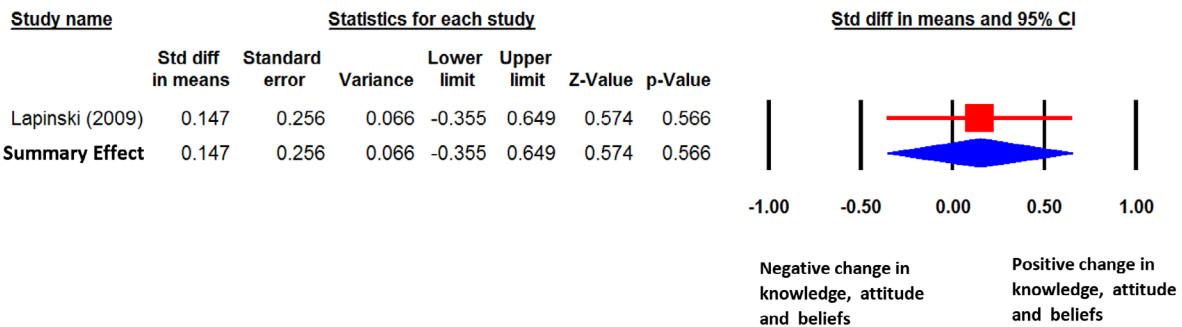
**I10-C1-O3 (n=1)** I10: Other intervention, C1: Attention control, O3: risk behaviour



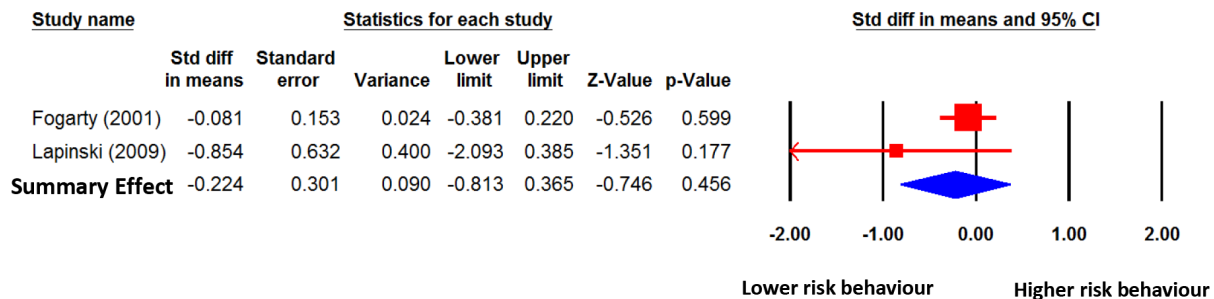
**I10-C2-O3 (n=1)** I10: Other intervention, C2: Another intervention as comparison, O3: risk behaviour



**I1/I2-C2-O2 (n=1)** I1/I2: Health Education and risk reduction – individual level intervention, and Health Education and risk reduction – group level intervention C2: Another intervention group as comparison, O2: knowledge, attitude, behavior



**1/I2-C2-O3 (n=2)** I1/I2: Health Education and risk reduction – individual level intervention, and Health Education and risk reduction – group level intervention C2: Another intervention group as comparison, O3: risk behaviour



Heterogeneity			
Q-value	df (Q)	P-value	I-squared
1.413	1	0.235	29.207

There is no between study heterogeneity.



## File 5. Summary of Findings Tables – by intervention, comparison and outcome

Individual level interventions compared to attention control in people living with HIV/AIDS

### Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with attention control	Risk difference with individual level interventions
Risk behaviour follow up: range 6 months to 12 months	1276 (5 RCTs) <sup>1</sup>	⊕⊕⊕○ MODERATE <sup>2</sup>	-	-	SMD <b>0.08 SD lower</b> (0.165 lower to 0.004 higher) <sup>3</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **SMD**: Standardised mean difference

### GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Number of studies: 4, number of data sets: 5.
2. Publication bias suspected.
3. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.

## Individual level interventions compared to active control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with active control	Risk difference with Individual level interventions
Risk behaviour follow up: range 3 months to 9 months	248 (2 RCTs)	⊕⊕○○ LOW <sup>1,2</sup>	-	-	SMD 0.363 SD lower (0.614 lower to 0.111 lower) <sup>3</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Sample size is less than 400.
2. Number of studies less than 3.
3. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference, and 0.8 a large difference.

## Group level interventions compared to attention control in people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with attention control	Risk difference with group level interventions
HIV/STI incidence follow up: range 9 months to 12 months	802 (2 RCTs)	⊕⊕⊕○ MODERATE <sup>1,2,3</sup>	OR 0.258 (0.119 to 0.561)	<b>Study population</b> 76 per 1000	
					<b>55 fewer per 1000</b> (66 fewer to 32 fewer)
Risk behaviour follow up: range 3 months to 18 months	1615 (10 RCTs) <sup>4</sup>	⊕○○○ VERY LOW <sup>5,6,7</sup>	-	-	SMD 0.551 SD lower (0.9 lower to 0.203 lower) <sup>8</sup>
Knowledge, attitudes, and beliefs follow up: 3 months	59 (1 RCT)	⊕○○○ VERY LOW <sup>2,5,9,10</sup>	-	-	SMD 0.576 SD higher (0.055 higher to 1.097 higher) <sup>8</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; OR: Odds ratio; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Total number of events less than 300.
2. Number of studies less than 3.
3. Magnitude of effect (OR) is lower than 0.5 and greater than 0.2, indicating a large effect size.
4. Number of studies: 9, number of data sets: 10.
5. Inadequate randomization and blinding.
6. Considerable heterogeneity ( $I^2 = 84.89\%$ ).
7. Publication bias suspected.
8. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.
9. Indirect (surrogate) outcome measure.
10. Sample size is less than 400.

## Group level interventions compared to active control in people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with active control	Risk difference with group level interventions
HIV/STI incidence follow up: 7.5 months	621 (1 RCT)	⊕○○○ VERY LOW <sup>1,2</sup>	OR 0.843 (0.400 to 1.778)	Study population 51 per 1000	8 fewer per 1000 (30 fewer to 36 more)
Risk behaviour follow up: range 2 months to 18 months	2295 (8 RCTs) <sup>3</sup>	⊕⊕⊕○ MODERATE <sup>4</sup>	-	-	SMD 0.087 SD lower (0.195 lower to 0.021 higher) <sup>5</sup>
Knowledge, attitude and beliefs follow up: range 2 months to 12 months	574 (3 RCTs)	⊕⊕○○ LOW <sup>6,7</sup>	-	-	SMD 0.273 SD higher (0.108 higher to 0.438 higher) <sup>5</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; OR: Odds ratio; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Total number of events is less than 300 and 95% CI around the pooled estimate includes negligible effect, appreciable benefit and appreciable harm.
2. Number of studies less than 3.
3. Number of studies: 7, number of data sets: 8.
4. Inadequate randomization.
5. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.
6. Inadequate randomization and blinding.
7. Indirect (surrogate) outcome measure.

## Combined individual and group level interventions compared to active control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with active control	Risk difference with combined individual and group level interventions
Risk behaviour follow up: range 4.5 months (2 RCTs) to 18 months	333	⊕○○○ VERY LOW <sup>1,2,3</sup>	-	-	SMD <b>0.224 SD lower</b> (0.813 lower to 0.365 higher) <sup>4</sup>
Knowledge, attitudes and beliefs follow up: 4.5 months	66 (1 RCT)	⊕○○○ VERY LOW <sup>2,3,5,6</sup>	-	-	SMD <b>0.147 SD higher</b> (0.355 lower to 0.649 higher) <sup>4</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Inadequate randomization and blinding.
2. Sample size less than 400.
3. Number of studies less than 3.
4. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.
5. Inadequate randomization.
6. Indirect (surrogate) outcome measure.

## Counseling, testing and referral services compared to attention control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with attention control	Risk difference with Counseling, testing and referral services
Risk behaviour follow up: range 6 months to 12 months	323 (2 RCTs)	⊕⊕○○ LOW <sup>1,2</sup>	-	-	SMD 0.061 SD lower (0.284 lower to 0.163 higher) <sup>3</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Total sample size less than 400.
2. Number of studies less than 3.
3. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.

## Comprehensive risk counseling and services compared to attention control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with attention control	Risk difference with Comprehensive risk counseling and services
HIV/STI incidence follow up: 12 months	535 (1 RCT)	⊕○○○ VERY LOW <sup>1,2</sup>	OR 0.703 (0.116 to 4.240)	Study population	
				11 per 1000	3 fewer per 1000 (10 fewer to 34 more)
Risk behaviour follow up: range 3 months to 25 months	3820 (14 RCTs) <sup>3</sup>	⊕⊕⊕○ MODERATE <sup>4</sup>	-	-	SMD 0.345 SD lower (0.49 lower to 0.199 lower) <sup>5</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; OR: Odds ratio; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Total number of events is less than 300 and 95% CI of the summary effect includes both appreciable benefit and appreciable harm.
2. Number of studies less than 3.
3. Number of studies: 13, number of data sets: 14.
4. Substantial heterogeneity,  $I^2=72.32\%$ .
5. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.

## Comprehensive risk counseling and services compared to active control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with active control	Risk difference with Comprehensive risk counseling and services
HIV/STI incidence follow up: 12 months	748 (2 RCTs) <sup>1</sup>	⊕○○○ VERY LOW <sup>2,3</sup>	OR 0.635 (0.313 to 1.286)	<b>Study population</b>	
				56 per 1000	<b>20 fewer per 1000</b> (38 fewer to 15 more)
Risk behaviour follow up: range 9 months to 18 months	4921 (7 RCTs) <sup>4</sup>	⊕⊕⊕⊕ HIGH	-	-	<b>SMD 0.152 SD lower</b> (0.254 lower to 0.051 lower) <sup>5</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; OR: Odds ratio; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Number of studies: 1, number of data sets: 2.
2. Total number of events is less than 300 and 95% CI of the summary effect includes both no effect and appreciable benefit.
3. Number of studies less than 3.
4. Number of studies: 5, number of data sets: 7.
5. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.



## Housing assistance compared to attention control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with attention control	Risk difference with Housing assistance
Risk behaviour follow up: 18 months	630 (1 RCT)	⊕⊕⊕○ MODERATE <sup>1</sup>	-	-	SMD 0.165 SD lower (0.422 lower to 0.092 higher) <sup>2</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; SMD: Standardised mean difference

## GRADE Working Group grades of evidence

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Number of studies less than 3.
2. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference, and 0.8 a large difference.

## Spiritual therapy compared to active control for people living with HIV/AIDS

## Bibliography:

Outcomes	N° of participants (studies) Follow-up	Quality of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with active control	Risk difference with Spiritual therapy
Risk behaviour follow up: 3 months	25 (1 RCT)	⊕○○○ VERY LOW <sup>1,2,3</sup>	-	-	SMD 0 SD (0.79 lower to 0.79 higher) <sup>4</sup>

\*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **SMD**: Standardised mean difference

**GRADE Working Group grades of evidence**

**High quality:** We are very confident that the true effect lies close to that of the estimate of the effect

**Moderate quality:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

**Low quality:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

**Very low quality:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

1. Inadequate randomization and blinding.
2. Sample size smaller than 400 and 95% CI of the summary effect includes both appreciable benefit and harm.
3. Number of studies less than 3.
4. As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference and 0.8 a large difference.

File 6. Risk of bias assessment

