

SUPPLEMENTARY WEB-ONLY TABLES

Table S1: Behavioral and Sociodemographic Associations with Incident HSV-2 or Syphilis Infection in Men (n=4136).

Variable	HSV-2				Syphilis			
	% Seroconversions (N) ^b	Univariate Associations IRR (95% CI)	Socio-demographic or Risk Multivariate Models Adjusted IRR ^a (95% CI)	Combined Multivariate Model Adjusted IRR (95% CI)	Percentage Positive (N)	Univariate Associations IRR (95% CI)	Socio-demographic or Risk Multivariate Models Adjusted IRR ^a (95% CI)	Combined Multivariate Model Adjusted IRR (95% CI)
Overall:	10.81 (3923)	--	--	--	1.80 (4052)	--	--	--
<i>Sociodemographics</i>								
Age at Baseline (years):								
15-19	3.66 (737)	1.00	1.00	1.00	0.53 (753)	1.00	1.00	1.00
20-24	5.65 (672)	1.56 (.95-2.55)	1.53 (.93-2.51)	1.34 (.79-2.28)	0.58 (687)	1.09 (.27-4.38)	1.01 (.26-4.01)	.55 (.14-2.14)
25-29	9.05 (652)	2.53 (1.61-4.00)	2.61 (1.65-4.13)	2.07 (1.18-3.65)	1.06 (662)	1.99 (.58-6.81)	1.91 (.56-6.53)	.82 (.23-2.96)
30-34	13.23 (514)	3.79 (2.43-5.92)	3.70 (2.36-5.81)	2.78 (1.58-4.88)	1.69 (533)	3.19 (.98-10.37)	3.04 (.93-9.90)	1.19 (.34-4.12)
35-39	13.60 (522)	3.91 (2.51-6.08)	3.82 (2.43-5.98)	2.82 (1.60-4.96)	3.11 (546)	5.94 (2.00-17.65)	5.87 (1.97-17.45)	2.20 (.68-7.07)
40-44	16.42 (402)	4.79 (3.06-7.49)	4.70 (2.98-7.40)	3.37 (1.90-5.95)	3.86 (414)	7.40 (2.47-22.14)	7.50 (2.50-22.51)	2.78 (.86-9.01)
45-49	22.41 (424)	6.77 (4.42-10.37)	6.86 (4.44-10.59)	4.79 (2.75-8.33)	3.50 (457)	6.70 (2.24-20.04)	7.31 (2.41-22.19)	2.47 (.74-8.29)
Place of Residence								
Urban	8.85 (1728)	1.00	1.00	1.00	1.37 (1821)	1.00	--	--
Rural	12.35 (2195)	1.42 (1.17-1.73)	1.25 (1.01-1.55)	1.30 (.90-1.78)	2.15 (2231)	1.57 (.97-2.55)	--	--
Standard of Living Index								
0-16	12.51 (983)	1.00	--	--	2.00 (1000)	1.00	1.00	1.00
17-22	9.90 (1040)	.78 (.60-1.02)	--	--	2.50 (1082)	1.25 (.70-2.23)	1.32 (.73-2.37)	1.31 (.73-2.35)
23-29	10.95 (1023)	.87 (.68-1.13)	--	--	1.78 (1069)	.89 (.48-1.67)	.89 (.47-1.70)	.96 (.50-1.82)
30-54	9.81 (877)	.78 (.59-1.02)	--	--	.78 (901)	.39 (.16-.92)	.35 (.15-.86)	.44 (.18-1.07)
Education								
None	14.31 (1027)	1.00	1.00	1.00	3.04 (1054)	1.00	--	--
Class 1-10	10.75 (2149)	.74 (.60-.90)	.96 (.78-1.18)	.93 (.75-1.15)	1.48 (2227)	.48 (.30-.79)	--	--
Class 11-12	5.25 (305)	.35 (.21-.58)	.56 (.33-.94)	.57 (.34-.97)	.94 (319)	.31 (.90-1.00)	--	--
Technical School/College	6.80 (441)	.46 (.31-.68)	.64 (.42-.96)	.71 (.47-1.07)	1.11 (451)	.36 (.14-.93)	--	--
Occupation								
Other	10.48 (3656)	1.00	1.00	1.00	1.64 (3779)	1.00	1.00	1.00
Transport Related	15.36 (267)	1.49 (1.08-2.06)	1.41 (1.02-1.95)	1.27 (.90-1.78)	4.03 (273)	2.47 (1.30-4.69)	2.23 (1.17-4.27)	2.01 (1.04-3.89)
Caste								
Forward Caste	10.03 (1376)	1.00	1.00	1.00	1.54 (1426)	1.00	--	--
Backward Caste	11.05 (977)	1.11 (.86-1.42)	1.18 (.91-1.52)	1.15 (.89-1.49)	2.20 (999)	1.43 (.79-2.58)	--	--
Scheduled Caste	13.36 (846)	1.34 (1.05-1.72)	1.71 (1.19-2.47)	1.57 (1.08-2.28)	1.83 (875)	1.18 (.62-2.24)	--	--
Scheduled Tribe	9.70 (133)	.97 (.55-1.71)	1.08 (.61-1.92)	1.01 (.56-1.80)	2.19 (137)	1.43 (.43-4.78)	--	--
Not Applicable	8.81 (590)	.87 (.63-1.20)	2.16 (1.13-4.12)	2.10 (1.10-4.01)	1.63 (615)	1.05 (.50-2.22)	--	--
Religion ^c								
Hindu	11.03 (2503)	1.00	1.00	1.00	1.82 (2580)	1.00	--	--
Muslim	7.89 (596)	.70 (.52-.96)	.43 (.22-.84)	.44 (.22-.84)	1.60 (626)	.88 (.44-1.73)	--	--
Christian	12.30 (821)	1.12 (.89-1.40)	.79 (.55-1.13)	.82 (.57-1.17)	1.90 (83)	1.04 (.59-1.83)	--	--
Other	0 (3)	--	--	--	0 (3)	--	--	--
Marital Status								
Never Married	3.66 (1065)	1.00	--	--	.46 (1085)	1.00	--	--
Currently Married	13.45 (2802)	3.87 (2.79-5.38)	--	--	2.30 (2908)	5.05 (2.04-12.54)	--	--
Previously Married	14.29 (56)	4.13 (1.93-8.82)	--	--	1.69 (59)	3.71 (.43-31.8)	--	--
<i>Health Behaviors</i>								
History of Tattoo								
No	10.68 (3632)	1.00	--	--	1.76 (3740)	1.00	--	--
Yes	12.46 (289)	1.19 (.84-1.67)	--	--	2.26 (310)	1.29 (.59-2.81)	--	--
Transfusion History								
No	10.77 (3827)	1.00	--	--	1.80 (3951)	1.00	--	--
Yes	12.90 (93)	1.21 (.68-2.15)	--	--	2.04 (98)	1.14 (.28-4.63)	--	--
Circumcision ^d								
No	11.30 (3229)	1.00	1.00	--	1.84 (3320)	1.00	--	--
Yes	8.72 (654)	.76 (.58-1.01)	.74 (.55-.97)	--	1.74 (691)	.95 (.51-1.76)	--	--
Chew or Smoke Tobacco								
Never	8.58 (1725)	1.00	--	--	1.18 (1777)	1.00	--	--
Currently	12.30 (1968)	1.46 (1.24-2.61)	--	--	2.51 (239)	2.14 (.86-5.31)	--	--
Previously	14.91 (228)	1.80 (1.19-1.79)	--	--	2.26 (2034)	1.92 (1.15-3.22)	--	--
Alcohol History								
Never	8.56 (2092)	1.00	1.00	1.00	1.11 (2156)	1.00	--	--
Currently	12.76 (1552)	1.52 (1.24-1.86)	1.06 (.86-1.31)	1.03 (.83-1.29)	2.62 (1603)	2.37 (1.44-3.91)	--	--
Previously	16.97 (277)	2.08 (1.51-2.86)	1.50 (1.08-2.07)	1.35 (.97-1.88)	2.41 (291)	2.18 (.94-5.04)	--	--
<i>Sexual Behavior</i>								
Lifetime Female Sex Partners								
0	3.67 (817)	1.00	1.00	1.00	.24 (833)	1.00	1.00	1.00
1	8.82 (1089)	2.46 (1.63-3.71)	2.25 (1.49-3.39)	.96 (.57-1.60)	.71 (1122)	2.97 (.63-14.00)	2.90 (.62-13.61)	1.70 (.31-9.20)

>1	14.94 (1975)	4.32 (2.97-6.29)	3.67 (2.49-5.41)	1.38 (.83-2.31)	3.07 (2054)	12.97 (3.17-53.02)	12.09 (2.95-49.53)	5.97 (1.30-27.32)
Sex with Men								
No/Never	10.86 (3804)	1.00	--	--	1.76 (3924)	1.00	--	--
>6 months ago	11.32 (53)	1.05 (.47-2.35)	--	--	5.08 (59)	2.95 (.93-9.38)	--	--
Within Last 6 Months	8.33 (24)	.76 (.19-3.03)	--	--	3.85 (26)	2.21 (.31-15.93)	--	--
Condom Use								
No sex in last 6 months	10.67 (178)	1.00	--	--	2.15 (186)	1.00	--	--
Sometimes/Often	9.83 (173)	.91 (.47-1.75)	--	--	1.70 (176)	.78 (.18-3.50)	--	--
Never Use	13.09 (2713)	1.24 (.78-1.97)	--	--	2.27 (2814)	1.06 (.38-2.90)	--	--
Syphilis/HSV-2 Serostatus								
Negative	10.76 (3856)	1.00	--	--	1.76 (3856)	1.00	--	--
Positive	13.43 (67)	1.26 (.65-2.43)	--	--	2.55 (196)	1.45 (.58-3.60)	--	--
HIV Status								
Negative	10.75 (3897)	1.00	--	--	1.79 (4014)	1.00	--	--
Positive	19.23 (26)	1.87 (.78-4.49)	--	--	2.63 (38)	1.48 (.21-10.67)	--	--
HSV-2/Syphilis Positive Spouse ^e								
No	9.97 (3782)	1.00	1.00	1.00	1.69 (4029)	1.00	1.00	1.00
Yes	33.33 (141)	3.80 (2.82-5.12)	3.05 (2.25-4.14)	2.59 (1.89-3.55)	21.74 (23)	14.54 (5.90-35.82)	9.78 (3.89-24.64)	6.78 (2.52-18.21)

IRR=Incident Rate Ratio; N, total number of people (positive and negative) in category.

^aSeparate models for sociodemographic and risk behavior (health + sexual behaviors).

^bSeroconversion from negative to positive over study duration.

^cFor religion "other" category excluded from regressions because of sample size.

^dCircumcision excluded from final model because of collinearity with Muslim religion.

^eHSV-2 positive spouse included in HSV-2 model and syphilis-positive spouse included in syphilis model.

Table S2: Behavioral and Sociodemographic Associations with Incident HSV-2 or Syphilis Infection in Women (n=4358).

Variable	HSV-2				Syphilis			
	% Seroconversions (N) ^b	Univariate Associations IRR (95% CI)	Socio-demographic or Risk Multivariate Models Adjusted IRR ^a (95% CI)	Combined Multivariate Model Adjusted IRR (95% CI)	Percentage Positive (N)	Univariate Associations IRR (95% CI)	Socio-demographic or Risk Multivariate Models Adjusted IRR ^a (95% CI)	Combined Multivariate Model Adjusted IRR (95% CI)
Overall:	16.10 (3969)	--	--	--	1.56 (4304)	--	--	--
<i>Sociodemographics</i>								
Age at Baseline (years):								
15-19	6.61 (666)	1.00	1.00	1.00	.43 (690)	1.00	1.00	1.00
20-24	12.20 (746)	1.90 (1.33-2.73)	1.49 (1.03-2.15)	1.46 (1.01-2.11)	.77 (780)	1.77 (.44-7.09)	1.66 (.41-6.68)	1.52 (.38-6.18)
25-29	12.93 (665)	2.03 (1.41-2.92)	1.53 (1.05-2.23)	1.52 (1.04-2.21)	1.11 (718)	2.58 (.68-9.73)	2.31 (.61-8.75)	2.22 (.60-8.33)
30-34	17.90 (553)	2.88 (2.02-4.11)	2.09 (1.44-3.03)	2.02 (1.39-2.92)	1.94 (620)	4.49 (1.27-15.92)	3.58 (1.00-12.85)	3.31 (.92-11.83)
35-39	22.37 (541)	3.70 (2.62-5.22)	2.57 (1.78-3.69)	2.52 (1.75-3.64)	2.43 (617)	5.66 (1.64-19.56)	4.18 (1.18-14.78)	3.83 (1.09-13.48)
40-44	25.91 (467)	4.37 (3.10-6.16)	3.09 (2.14-4.46)	3.02 (2.09-4.37)	2.72 (514)	6.34 (1.82-22.08)	4.75 (1.35-16.75)	4.44 (1.26-15.62)
45-49	23.26 (331)	3.87 (2.67-5.60)	2.71 (1.83-4.02)	2.74 (1.85-4.07)	2.47 (365)	5.75 (1.56-21.25)	4.52 (1.23-16.70)	4.33 (1.18-15.94)
Place of Residence								
Urban	11.41 (1771)	1.00	1.00	1.00	1.39 (2012)	1.00	--	--
Rural	19.88 (2198)	1.82 (1.54-2.14)	1.39 (1.16-1.66)	1.45 (1.21-1.72)	1.70 (2292)	1.22 (.75-1.98)	--	--
Standard of Living Index								
0-16	21.05 (1045)	1.00	1.00	1.00	2.03 (1134)	1.00	--	--
17-22	16.73 (1034)	.78 (.64-.95)	.85 (.69-1.04)	.86 (.70-1.05)	2.14 (1122)	1.06 (.60-1.88)	--	--
23-29	14.19 (1001)	.65 (.53-.80)	.78 (.62-.97)	.79 (.63-.98)	1.09 (1096)	.54 (.27-1.09)	--	--
30-54	11.70 (889)	.53 (.42-.67)	.72 (.55-.94)	.74 (.57-.96)	.84 (952)	.42 (.19-.93)	--	--
Education ^c								
None	21.33 (1791)	1.00	1.00	1.00	2.50 (1957)	1.00	1.00	1.00
Any schooling	--	--	--	--	.77 (2347)	.30 (.18-.52)	.37 (.22-.64)	.40 (.23-.70)
Class 1-10	13.28 (1800)	.59 (.50-.70)	.86 (.71-1.02)	.86 (.71-1.03)	.77 (1952)	--	--	--
Class 11-12	4.89 (184)	.21 (.11-.41)	.46 (.23-.92)	.45 (.23-.90)	1.06 (189)	--	--	--
Technical School/College	4.64 (194)	.20 (.10-.38)	.42 (.21-.83)	.44 (.22-.88)	.49 (206)	--	--	--
Occupation								
Other	15.83 (3916)	1.00	1.00	1.00	1.51 (4243)	1.00	--	--
Field Related	35.85 (53)	2.54 (1.63-3.97)	1.95 (1.24-3.07)	1.84 (1.12-3.02)	4.92 (61)	3.21 (1.04-10.57)	--	--
Caste								
Forward Caste	14.50 (1462)	1.00	--	--	1.14 (1584)	1.00	--	--
Backward Caste	16.99 (983)	1.18 (.97-1.45)	--	--	1.88 (1065)	1.65 (.87-3.13)	--	--
Scheduled Caste	21.64 (827)	1.54 (1.26-1.87)	--	--	2.11 (899)	1.85 (.97-3.52)	--	--
Scheduled Tribe	12.21 (131)	.83 (.50-1.38)	--	--	1.35 (148)	1.19 (.28-5.13)	--	--
Not Applicable	11.48 (566)	.78 (.59-1.03)	--	--	1.32 (608)	1.16 (.50-2.66)	--	--
Religion ^d								
Hindu	15.90 (2554)	1.00	1.00	1.00	1.62 (2774)	1.00	--	--
Muslim	9.53 (577)	.58 (.44-.77)	.60 (.45-.79)	.60 (.45-.80)	1.45 (622)	.89 (.44-1.83)	--	--
Christian	21.34 (834)	1.37 (1.15-1.64)	1.23 (1.03-1.48)	1.23 (1.03-1.48)	1.44 (904)	.88 (.47-1.63)	--	--
Other	0 (4)	--	--	--	0 (4)	--	--	--
Marital Status								
Never Married	2.53 (356)	1.00	1.00	1.00	0 (367)	--	--	--
Currently Married	16.30 (3288)	6.98 (3.61-13.48)	3.03 (1.50-6.10)	2.86 (1.42-5.77)	1.64 (3542)	1.00	--	--
Previously Married	38.92 (325)	3.28 (6.71-26.28)	4.30 (2.05-9.02)	4.35 (2.07-9.14)	2.28 (395)	1.40 (.69-2.82)	--	--
<i>Health Behavior</i>								
History of Tattoo								
No	15.80 (3356)	1.00	1.00	1.00	1.43 (3627)	1.00	--	--
Yes	21.70 (613)	1.51 (1.25-1.82)	1.34 (1.11-1.63)	.98 (.80-1.20)	2.22 (677)	1.57 (.88-2.78)	--	--
Transfusion History								
No	16.23 (3642)	1.00	--	--	1.47 (3933)	1.00	--	--
Yes	14.72 (326)	.90 (.67-1.21)	--	--	2.43 (370)	1.66 (.82-3.36)	--	--
Chew or Smoke Tobacco								
Never	16.01 (3847)	1.00	--	--	1.44 (4170)	1.00	1.00	1.00
Ever	18.85 (122)	1.21 (.80-1.83)	--	--	5.22 (134)	3.74 (1.71-8.17)	3.24 (1.41-7.47)	1.83 (.79-4.22)
Alcohol History ^e								
Never	16.11 (3949)	--	--	--	1.52 (4281)	--	--	--
Currently	8.33 (12)	--	--	--	0 (14)	--	--	--
Previously	33.33 (6)	--	--	--	0 (6)	--	--	--
<i>Sexual Behavior</i>								

Lifetime Male Sex Partners ^{f,g}									
0	2.77 (325)	1.00	1.00	--	0 (335)	1.00	1.00	1.00	1.00
1	16.04 (3242)	6.25 (3.23-12.08)	5.63 (2.91-10.90)	--	1.54 (3516)	1.00	1.00	1.00	1.00
>1	30.28 (317)	12.68 (6.41-25.09)	11.59 (5.84-22.98)	--	3.05 (361)	2.15 (1.12-4.09)	2.02 (1.03-3.98)	1.64 (.85-3.18)	1.64 (.85-3.18)
Condom Use at Baseline ^h									
No sex in last 6 months	24.59 (370)	1.00	--	--	2.53 (434)	1.00	--	--	--
Sometimes/Often	16.95 (59)	.66 (.34-1.26)	--	--	1.45 (69)	.57 (.07-4.40)	--	--	--
Never Use	16.46 (3134)	.64 (.51-.80)	--	--	1.57 (3378)	.62 (.32-1.18)	--	--	--
Syphilis/HSV-2 Serostatus									
Negative	15.99 (3940)	1.00	1.00	1.00	1.47 (3940)	1.00	--	--	--
Positive	31.03 (29)	2.10 (1.10-4.01)	1.95 (1.02-3.74)	1.27 (.61-2.65)	2.47 (364)	1.69 (.84-3.40)	--	--	--
HIV Status									
Negative	16.09 (3947)	1.00	--	--	1.55 (4261)	1.00	--	--	--
Positive	18.18 (22)	1.13 (.43-3.01)	--	--	2.33 (43)	1.50 (.21-10.80)	--	--	--
HSV-2/Syphilis Positive Spouse ⁱ									
No	15.28 (3847)	1.00	1.00	1.00	1.46 (4236)	1.00	1.00	1.00	1.00
Yes	41.80 (122)	3.19 (2.42-4.21)	2.99 (2.25-3.97)	3.27 (2.46-4.35)	7.35 (68)	5.18 (2.08-12.88)	5.18 (2.03-13.21)	5.94 (2.28-15.47)	5.94 (2.28-15.47)

IRR=Incident Rate Ratio; N, total number of people (positive and negative) in category.

^aSeparate models for sociodemographic and risk behavior (health + sexual behaviors).

^bSeroconversion from negative to positive over study duration.

^cEducational status dichotomized to any schooling vs. no education for Syphilis. 0 females with technical school or college had incident infection.

^dFor religion "other" category excluded from regressions because of sample size.

^eAlcohol variable excluded from regressions because of small sample size.

^fLifetime Male Sex Partners dichotomized to multiple vs. 0 or 1. 0 females who reported never having sex at baseline had syphilis.

^gLifetime Male Sex Partners excluded from final model because of collinearity with marital status.

^hCondom use not included in the multivariate HSV-2 model, as adjusting for it, caused 0 and 1 lifetime sex partner categories to drop out.

ⁱHSV-2 positive spouse included in HSV-2 model and syphilis-positive spouse included in syphilis model.

Table S3: Serostatus at Follow-up

	Serostatus at Baseline			
	Negatively Concordant # Couples % (95% CI)	M+, F- # Couples % (95% CI)	M-,F+ # Couples % (95% CI)	Positively Concordant # Couples % (95% CI)
# Couples				
HSV-2	2272	81	93	53
Syphilis	2466	35	11	8
Follow-up Serostatus:				
Discordant				
M+, F -				
HSV-2	100 4.4 (3.6-5.2)*	42 51.9 (40.7-63.0)	--	--
Syphilis	34 1.4 (.92-1.8)	31 88.6 (77.5-99.7)	--	--
M-, F+				
HSV-2	137 6.0 (5.1-7.0)*	--	59 63.4 (53.5-73.4)	--
Syphilis	12 .50 (.21-.76)**	--	6 54.6 (19.5-89.6)	--
Positively Concordant				
HSV-2	176 7.8 (6.6-8.8)	39 48.1 (37.0-59.3)	34 36.6 (26.6-46.5)‡	--
Syphilis	15 .61 (.30-.92)**	4 11.4 (.34-22.5)†‡	5 45.5 (10.4-80.5)†	--

*p<.05 for comparison of proportion converting to positively concordant

**p<.05 for comparison of M+,F- vs. M-,F+ and positively concordant follow-up status

†p<.05 for comparison of proportion of M+,F- to M-,F+ couples at baseline that convert to positive concordant

‡p<.05 for comparison of discordant couples that remain discordant vs. convert to positively concordant