**Supplementary file 2: Supplementary tables** for article ‘Age-disparate partnerships and HSV-2 among adolescent girls and young women in South Africa: implications for HIV infection risk’

Table S1. Logistic regression models of the association between HSV-2 and partner age-gap within the most recent partnerships reported by 15-24 year old women in KwaZulu-Natal South Africa (2014/15)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | HSV-2 | HSV-2 | HSV-2 | HSV-2 |
|  | OR (95% CI) | aOR (95% CI) | OR(95% CI) | aOR(95% CI) |
|  |  |  |  |  |
| Partnership age-gap (ref: <5 years) |  |  |  |  |
| ≥5 years | 1.68\*\*\* | 1.62\*\*\* |  |  |
|  | (1.32-2.13) | (1.22-2.14) |  |  |
| 5-9 years |  |  | 1.59\*\*\* | 1.56\*\*\* |
|  |  |  | (1.25-2.02) | (1.17-2.09) |
| ≥10 years |  |  | 2.14\*\* | 1.91\* |
|  |  |  | (1.17-3.92) | (0.96 - 3.82) |
| Age (years) |  | 1.33\*\*\* |  | 1.33\*\*\* |
|  |  | (1.23 - 1.44) |  | (1.23 - 1.44) |
| Education (ref: <secondary) |  |  |  |  |
|  Some secondary education |  | 1.01 |  | 1.01 |
|  |  | (0.50 - 2.02) |  | (0.50 - 2.02) |
|  Grade 12 |  | 0.53\* |  | 0.53\* |
|  |  | (0.27 - 1.04) |  | (0.27 - 1.04) |
|  Tertiary |  | 0.49 |  | 0.49 |
|  |  | (0.21 - 1.16) |  | (0.21 - 1.15) |
| Household monthly income (ref ≤R500) |  |  |  |  |
|  R501-R2500 |  | 1.11 |  | 1.10 |
|  |  | (0.76 - 1.61) |  | (0.76 - 1.60) |
|  R2501-R6000 |  | 0.88 |  | 0.87 |
|  |  | (0.55 - 1.39) |  | (0.55 - 1.39) |
|  >R6000 |  | 0.63 |  | 0.63 |
|  |  | (0.35 - 1.13) |  | (0.35 - 1.13) |
|  Missing data |  | 1.53 |  | 1.53 |
|  |  | (0.83 - 2.82) |  | (0.83 - 2.82) |
| Lifetime partners (ref: 1) |  |  |  |  |
|  Two partners |  | 1.47\*\* |  | 1.47\*\* |
|  |  | (1.04 - 2.09) |  | (1.04 - 2.09) |
|  Three partners |  | 1.48\* |  | 1.48\* |
|  |  | (0.94 - 2.34) |  | (0.94 - 2.34) |
|  Four or more partners |  | 1.87\*\*\* |  | 1.87\*\*\* |
|  |  | (1.17 - 3.00) |  | (1.17 - 2.98) |
|  Missing data |  | 0.93 |  | 0.93 |
|  |  | (0.53 - 1.66) |  | (0.52 - 1.64) |
| Condom used at first sex (ref: no) |  |  |  |  |
|  Yes |  | 0.84 |  | 0.84 |
|  |  | (0.62 - 1.14) |  | (0.62 - 1.15) |
|  Don’t remember |  | 1.13 |  | 1.13 |
|  |  | (0.56 - 2.28) |  | (0.56 - 2.27) |
| Age at first sex (ref: youngest 25%: ≤16 years old)  |  |  |  |  |
|  Second quartile (17 years old) |  | 0.82 |  | 0.82 |
|  |  | (0.54 - 1.23) |  | (0.55 - 1.24) |
|  Third quartile (18 or 19 years old) |  | 0.85 |  | 0.86 |
|  |  | (0.57 - 1.28) |  | (0.57 - 1.29) |
|  Fourth quartile (20-23 years old) |  | 0.56\*\* |  | 0.56\*\* |
|  |  | (0.32 - 0.97) |  | (0.32 - 0.97) |
|  Missing data |  | 0.85 |  | 0.85 |
|  |  | (0.51 - 1.42) |  | (0.51 - 1.41) |
| Observations | 1,550 | 1,550 | 1,550 | 1,550 |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

OR: unadjusted odds ratio; aOR: Adjusted odds ratio; 95% CI: 95% Confidence interval.

Robust standard errors, clustered at the enumeration area level.

Table S2. Poisson regression models of the association between HSV-2 and partner age-gap within the most recent partnerships reported by 15-24 year old women in KwaZulu-Natal South Africa (2014/15)

|  |  |  |
| --- | --- | --- |
|  | All women | HIV-negative women |
|  | (1) | (2) | (3) | (4) |
|  | HSV-2 | HSV-2 | HSV-2 | HSV-2 |
|  | aPR(95% CI) | aPR (95% CI) | aPR(95% CI) | aPR(95% CI) |
|  |  |  |  |  |
| Partnership age-gap (ref: <5 years) |  |  |  |  |
| ≥5 years | 1.19\*\*\* | 1.62\*\*\* | 1.25\*\* |  |
|  | (1.07 - 1.32) | (1.22-2.14) | (1.05 - 1.50) |  |
| 5-9 years |  | 1.18\*\*\* |  | 1.22\*\* |
|  |  | (1.06 - 1.32) |  | (1.01 - 1.47) |
| ≥10 years |  | 1.24\*\* |  | 1.45\* |
|  |  | (1.00 - 1.53) |  | (0.98 - 2.13) |
| Age (years) | 1.12\*\*\* | 1.12\*\*\* | 1.11\*\*\* | 1.11\*\*\* |
|  | (1.08 - 1.15) | (1.08 - 1.15) | (1.06 - 1.17) | (1.06 - 1.17) |
| Education (ref: <secondary) |  |  |  |  |
| Some secondary education | 1.02 | 1.01 | 1.64 | 1.68 |
|  | (0.82 - 1.26) | (0.81 - 1.26) | (0.81 - 3.30) | (0.82 - 3.42) |
| Grade 12 | 0.81\* | 0.81\* | 1.20 | 1.23 |
|  | (0.66 - 1.00) | (0.65 - 1.00) | (0.61 - 2.38) | (0.61 - 2.46) |
| Tertiary | 0.78 | 0.78 | 1.18 | 1.20 |
|  | (0.56 - 1.09) | (0.56 - 1.09) | (0.57 - 2.45) | (0.57 - 2.52) |
| Household monthly income (ref ≤R500) |  |  |  |  |
| R501-R2500 | 1.04 | 1.04 | 1.03 | 1.03 |
|  | (0.90 - 1.19) | (0.90 - 1.19) | (0.83 - 1.29) | (0.82 - 1.29) |
| R2501-R6000 | 0.94 | 0.94 | 0.85 | 0.85 |
|  | (0.78 - 1.13) | (0.78 - 1.13) | (0.63 - 1.16) | (0.63 - 1.15) |
| >R6000 | 0.80 | 0.80 | 0.75 | 0.74 |
|  | (0.59 - 1.08) | (0.59 - 1.08) | (0.47 - 1.19) | (0.46 - 1.19) |
| Missing data | 1.17 | 1.17 | 1.27 | 1.26 |
|  | (0.95 - 1.44) | (0.95 - 1.44) | (0.92 - 1.76) | (0.91 - 1.75) |
| Lifetime partners (ref: 1) |  |  |  |  |
| Two partners | 1.19\*\* | 1.19\*\* | 1.25\*\* | 1.25\*\* |
|  | (1.02 - 1.38) | (1.02 - 1.38) | (1.03 - 1.52) | (1.03 - 1.52) |
| Three partners | 1.19\*\* | 1.19\*\* | 1.13 | 1.12 |
|  | (1.00 - 1.40) | (1.00 - 1.40) | (0.85 - 1.49) | (0.85 - 1.48) |
| Four or more partners | 1.24\*\* | 1.24\*\* | 1.21 | 1.20 |
|  | (1.05 - 1.45) | (1.05 - 1.45) | (0.92 - 1.58) | (0.92 - 1.56) |
| Missing data | 1.02 | 1.02 | 0.88 | 0.88 |
|  | (0.81 - 1.27) | (0.81 - 1.27) | (0.56 - 1.38) | (0.56 - 1.39) |
| Condom used at first sex (ref: no) |  |  |  |  |
| Yes | 0.93 | 0.93 | 0.86 | 0.87 |
|  | (0.81 - 1.05) | (0.81 - 1.05) | (0.69 - 1.07) | (0.70 - 1.08) |
| Don’t remember | 1.07 | 1.07 | 0.93 | 0.93 |
|  | (0.81 - 1.41) | (0.81 - 1.41) | (0.60 - 1.45) | (0.60 - 1.46) |
| Age at first sex (ref: youngest 25%: ≤16 years old) |  |  |  |  |
| Second quartile (17 years old) | 0.90 | 0.90 | 0.90 | 0.90 |
|  | (0.77 - 1.07) | (0.77 - 1.07) | (0.68 - 1.21) | (0.68 - 1.21) |
| Third quartile (18 or 19 years old) | 0.95 | 0.95 | 1.03 | 1.03 |
|  | (0.82 - 1.11) | (0.82 - 1.11) | (0.81 - 1.32) | (0.81 - 1.32) |
| Fourth quartile (20-23 years old) | 0.81\* | 0.81\* | 0.82 | 0.82 |
|  | (0.65 - 1.01) | (0.65 - 1.00) | (0.58 - 1.17) | (0.58 - 1.17) |
| Missing data | 0.93 | 0.93 | 0.93 | 0.92 |
|  | (0.78 - 1.12) | (0.78 - 1.11) | (0.68 - 1.28) | (0.66 - 1.27) |
| Observations | 1,550 | 1,550 | 1,059 | 1,059 |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

aOR: adjusted prevalence ratio; 95% CI: 95% Confidence interval.

Robust standard errors, clustered at the enumeration area level.

Table S3. Logistic regression models of the association between HSV-2 and partner age-gap within the most recent partnerships reported by *HIV-negative* 15-24 year-old women in KwaZulu-Natal South Africa (2014/15)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | HSV-2 | HSV-2 | HSV-2 | HSV-2 |
|  | OR(95% CI) | aOR(95% CI) | OR(95% CI) | aOR(95% CI) |
|  |  |  |  |  |
| Partnership age-gap (ref: <5 years) |  |  |  |  |
| ≥5 years | 1.53\*\* | 1.60\*\* |  |  |
|  | (1.10-2.13) | (1.11-2.31) |  |  |
| 5-9 years |  |  | 1.46\*\* | 1.50\*\* |
|  |  |  | (1.03-2.05) | (1.02-2.20) |
| ≥10 years |  |  | 2.02 | 2.34\* |
|  |  |  | (0.86-4.75) | (0.91-6.06) |
| Age (years) |  | 1.23\*\*\* |  | 1.24\*\*\* |
|  |  | (1.12 - 1.36) |  | (1.12 - 1.36) |
| Education (ref: <secondary) |  |  |  |  |
|  Some secondary education |  | 2.47 |  | 2.61\* |
|  |  | (0.82 - 7.44) |  | (0.84 - 8.12) |
|  Grade 12 |  | 1.30 |  | 1.36 |
|  |  | (0.45 - 3.72) |  | (0.46 - 4.01) |
|  Tertiary |  | 1.25 |  | 1.31 |
|  |  | (0.39 - 4.01) |  | (0.40 - 4.31) |
| Household monthly income (ref ≤R500) |  |  |  |  |
|  R501-R2500 |  | 1.05 |  | 1.04 |
|  |  | (0.67 - 1.65) |  | (0.66 - 1.64) |
|  R2501-R6000 |  | 0.74 |  | 0.74 |
|  |  | (0.42 - 1.31) |  | (0.42 - 1.31) |
|  >R6000 |  | 0.60 |  | 0.58 |
|  |  | (0.28 - 1.28) |  | (0.27 - 1.27) |
|  Missing data |  | 1.60 |  | 1.61 |
|  |  | (0.78 - 3.27) |  | (0.78 - 3.28) |
| Lifetime partners (ref: 1) |  |  |  |  |
|  Two partners |  | 1.55\*\* |  | 1.55\*\* |
|  |  | (1.07 - 2.26) |  | (1.07 - 2.26) |
|  Three partners |  | 1.23 |  | 1.20 |
|  |  | (0.70 - 2.16) |  | (0.68 - 2.12) |
|  Four or more partners |  | 1.52 |  | 1.50 |
|  |  | (0.84 - 2.73) |  | (0.85 - 2.67) |
|  Missing data |  | 0.76 |  | 0.75 |
|  |  | (0.34 - 1.70) |  | (0.33 - 1.71) |
| Condom used at first sex (ref: no) |  |  |  |  |
|  Yes |  | 0.76 |  | 0.77 |
|  |  | (0.51 - 1.12) |  | (0.52 - 1.14) |
|  Don’t remember |  | 0.87 |  | 0.87 |
|  |  | (0.39 - 1.95) |  | (0.39 - 1.96) |
| Age at first sex (ref: youngest 25%: ≤16 years old)  |  |  |  |  |
|  Second quartile (17 years old) |  | 0.87 |  | 0.87 |
|  |  | (0.51 - 1.48) |  | (0.51 - 1.49) |
|  Third quartile (18 or 19 years old) |  | 1.07 |  | 1.07 |
|  |  | (0.65 - 1.77) |  | (0.65 - 1.78) |
|  Fourth quartile (20-23 years old) |  | 0.68 |  | 0.68 |
|  |  | (0.34 - 1.37) |  | (0.34 - 1.35) |
|  Missing data |  | 0.88 |  | 0.86 |
|  |  | (0.46 - 1.68) |  | (0.44 - 1.66) |
|  |  |  |  |  |
| Observations | 1,059 | 1,059 | 1,059 | 1,059 |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

OR: unadjusted odds ratio; aOR: Adjusted odds ratio; 95% CI: 95% Confidence interval.

Robust standard errors, clustered at the enumeration area level.

Table S4. Logistic regression models of the association between HSV-2 and partner age-gap within the *three most recent* partnerships reported by 15-24 year old women in KwaZulu-Natal South Africa (2014/15)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | HSV-2 | HSV-2 | HSV-2 | HSV-2 |
|  | OR(95% CI) | aOR(95% CI) | OR(95% CI) | aOR(95% CI) |
|  |  |  |  |  |
| Partnership age-gap (ref: <5 years) |  |  |  |  |
|  ≥5 years | 1.69\*\*\* | 1.57\*\*\* |  |  |
|  | (1.31-2.19) | (1.17-2.09) |  |  |
|  5-9 years^ |  |  | 1.56\*\*\* | 1.48\*\* |
|  |  |  | (1.19-2.04) | (1.10-2.00) |
|  ≥10 years^ |  |  | 2.46\*\*\* | 2.04\* |
|  |  |  | (1.41-4.30) | (1.07-3.91) |
|  |  |  |  |  |
| Age (years) |  | 1.33\*\*\* |  | 1.33\*\*\* |
|  |  | (1.22 - 1.44) |  | (1.22 - 1.43) |
| Education (ref: <secondary/none) |  |  |  |  |
|  Some secondary education |  | 1.00 |  | 0.99 |
|  |  | (0.50 - 1.97) |  | (0.50 - 1.96) |
|  Grade 12 |  | 0.53\* |  | 0.52\* |
|  |  | (0.27 - 1.02) |  | (0.27 - 1.02) |
|  Tertiary |  | 0.48\* |  | 0.47\* |
|  |  | (0.20 - 1.11) |  | (0.20 - 1.11) |
| Household monthly income (ref ≤R500) |  |  |  |  |
|  R501-R2500 |  | 1.11 |  | 1.10 |
|  |  | (0.77 - 1.60) |  | (0.76 - 1.59) |
|  R2501-R6000 |  | 0.86 |  | 0.87 |
|  |  | (0.54 - 1.38) |  | (0.54 - 1.38) |
|  >R6000 |  | 0.62 |  | 0.61 |
|  |  | (0.34 - 1.12) |  | (0.34 - 1.12) |
|  Missing data |  | 1.53 |  | 1.54 |
|  |  | (0.83 - 2.82) |  | (0.83 - 2.83) |
| Lifetime partners (ref: 1) |  |  |  |  |
|  Two partners |  | 1.41\* |  | 1.41\* |
|  |  | (0.99 - 2.01) |  | (0.99 - 2.02) |
|  Three partners |  | 1.45 |  | 1.45 |
|  |  | (0.92 - 2.29) |  | (0.92 - 2.29) |
|  Four or more partners |  | 1.78\*\* |  | 1.76\*\* |
|  |  | (1.11 - 2.86) |  | (1.10 - 2.82) |
|  Missing data |  | 0.92 |  | 0.91 |
|  |  | (0.52 - 1.64) |  | (0.51 - 1.61) |
| Condom used at first sex (ref: no) |  |  |  |  |
|  Yes |  | 0.84 |  | 0.85 |
|  |  | (0.62 - 1.15) |  | (0.62 - 1.15) |
|  Don’t remember |  | 1.15 |  | 1.15 |
|  |  | (0.57 - 2.32) |  | (0.57 - 2.31) |
| Age at first sex (ref: youngest 25%: ≤16 years old)  |  |  |  |  |
|  Second quartile (17 years old) |  | 0.83 |  | 0.84 |
|  |  | (0.55 - 1.25) |  | (0.56 - 1.26) |
|  Third quartile (18 or 19 years old) |  | 0.86 |  | 0.86 |
|  |  | (0.57 - 1.29) |  | (0.57 - 1.30) |
|  Fourth quartile (20-23 years old) |  | 0.56\*\* |  | 0.56\*\* |
|  |  | (0.32 - 0.98) |  | (0.32 - 0.98) |
|  Missing data |  | 0.87 |  | 0.86 |
|  |  | (0.52 - 1.44) |  | (0.52 - 1.43) |
|  |  |  |  |  |
| Observations | 1,550 | 1,550 | 1,550 | 1,550 |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

OR: unadjusted odds ratio; aOR: Adjusted odds ratio; 95% CI: 95% Confidence interval.

Robust standard errors, clustered at the enumeration area level.

^ The largest age-gap among all partnerships was used to define this variable for women who reported more than one partner. For example, if a woman reported a partner 7-years older and a partner 11-years older, the woman was assigned to the intergenerational partnership category (≥10 year age-gap).

Table S5. Logistic regression models of the association between HSV-2 and partner age-gap within the *three most recent* partnerships reported by *HIV-negative* 15-24 year old women in KwaZulu-Natal South Africa (2014/15)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | HSV-2 | HSV-2 | HSV-2 | HSV-2 |
|  | OR(95% CI) | aOR(95% CI) | OR(95% CI) | aOR(95% CI) |
|  |  |  |  |  |
| Partnership age-gap (ref: <5 years) |  |  |  |  |
|  ≥5 years | 1.46\*\* | 1.50\*\* |  |  |
|  | (1.06-2.03) | (1.04-2.15) |  |  |
|  5-9 years |  |  | 1.35\* | 1.37 |
|  |  |  | (0.96-1.89) | (0.94-1.99) |
|  ≥10 years |  |  | 2.29\*\* | 2.46\*\* |
|  |  |  | (1.05-5.03) | (1.02-5.95) |
|  |  |  |  |  |
| Age (years) |  | 1.23\*\*\* |  | 1.24\*\*\* |
|  |  | (1.12 - 1.36) |  | (1.12 - 1.36) |
| Education (ref: <secondary/none) |  |  |  |  |
|  Some secondary education |  | 2.46\* |  | 2.62\* |
|  |  | (0.85 - 7.11) |  | (0.86 - 7.94) |
|  Grade 12 |  | 1.30 |  | 1.37 |
|  |  | (0.47 - 3.58) |  | (0.47 - 3.95) |
|  Tertiary |  | 1.24 |  | 1.31 |
|  |  | (0.40 - 3.86) |  | (0.41 - 4.26) |
| Household monthly income (ref ≤R500) |  |  |  |  |
|  R501-R2500 |  | 1.05 |  | 1.04 |
|  |  | (0.67 - 1.64) |  | (0.67 - 1.63) |
|  R2501-R6000 |  | 0.73 |  | 0.74 |
|  |  | (0.41 - 1.30) |  | (0.42 - 1.30) |
|  >R6000 |  | 0.59 |  | 0.58 |
|  |  | (0.28 - 1.28) |  | (0.26 - 1.27) |
|  Missing data |  | 1.59 |  | 1.61 |
|  |  | (0.78 - 3.23) |  | (0.79 - 3.28) |
| Lifetime partners (ref: 1) |  |  |  |  |
|  Two partners |  | 1.49\*\* |  | 1.49\*\* |
|  |  | (1.01 - 2.18) |  | (1.01 - 2.17) |
|  Three partners |  | 1.20 |  | 1.17 |
|  |  | (0.69 - 2.11) |  | (0.67 - 2.05) |
|  Four or more partners |  | 1.51 |  | 1.49 |
|  |  | (0.84 - 2.71) |  | (0.84 - 2.64) |
|  Missing data |  | 0.76 |  | 0.75 |
|  |  | (0.34 - 1.69) |  | (0.33 - 1.70) |
| Condom used at first sex (ref: no) |  |  |  |  |
|  Yes |  | 0.76 |  | 0.77 |
|  |  | (0.51 - 1.13) |  | (0.52 - 1.14) |
|  Don’t remember |  | 0.87 |  | 0.88 |
|  |  | (0.39 - 1.96) |  | (0.39 - 1.97) |
| Age at first sex (ref: youngest 25%: : ≤16 years old)  |  |  |  |  |
|  Second quartile (17 years old) |  | 0.87 |  | 0.87 |
|  |  | (0.51 - 1.49) |  | (0.51 - 1.50) |
|  Third quartile (18 or 19 years old) |  | 1.07 |  | 1.07 |
|  |  | (0.65 - 1.77) |  | (0.64 - 1.77) |
|  Fourth quartile (20-23 years old) |  | 0.68 |  | 0.67 |
|  |  | (0.34 - 1.37) |  | (0.33 - 1.33) |
|  Missing data |  | 0.89 |  | 0.86 |
|  |  | (0.46 - 1.70) |  | (0.44 - 1.66) |
|  |  |  |  |  |
| Observations | 1,059 | 1,059 | 1,059 | 1,059 |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

OR: unadjusted odds ratio; aOR: Adjusted odds ratio; 95% CI: 95% Confidence interval.

Robust standard errors, clustered at the enumeration area level.