What is the impact of DREAMS on HSV-2 acquisition among AGYW in rural KwaZulu-Natal, South Africa?

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In South Africa, adolescent girls and young women (AGYW) are at high risk of acquiring STIs and HIV.

Herpes Simplex Virus type-2 (HSV-2) is a marker of sexual risk and increases HIV acquisition risk.

DREAMS combination biological, behavioural, and structural interventions aimed to reduce HIV incidence in AGYW.

We evaluate the impact of the DREAMS partnership on HSV-2 infection in AGYW living in a rural area of South Africa.
Setting: AHRI Health and Demographic surveillance system
Enrolled in 2017
n=2184

Followed up in 2019
n=1712

Still Eligible
n=2535

328 Not found
67 Refused

220 Migrated
1 Died
1 Not capable
36 refused
73 not found

AGYW Cohort aged 13-22 years

Random sample
N=3013 AGYW

Followed up in 2018
n=1853
(Missed visit n=163)

Followed up in 2019
n=1712

341 Migrated
11 Died
50 Refused
39 Not found
25 Other

418 migrated
5 Died
14 not capable
9 Over/under age
32 Identified as males
Methods - Data collection

• Face-to-face interview and self-filled questionnaire
  - Socio-demographics
  - General health
  - Awareness and uptake of DREAMS interventions
  - Sexual behaviour

• Dried blood spot for HSV-2 testing
Methods - Analysis

• AGYW considered DREAMS beneficiaries if reported either:
  1. Receiving an invitation to participate in a DREAMS activity
  2. Participating in services provided by local DREAMS implementing organizations in the past 12 months

• HSV-2 incidence: Calculated for AGYW with a first negative test plus ≥1 follow-up test
• HSV-2 sero-conversion dates were estimated as the mid-point between the date of last negative and first positive test.

• AGYW who remained negative throughout the study were censored at the last visit date.

• Poisson regression models used to estimate relative risk (RR) of HSV-2 infection.
AGYW characteristics at baseline (N=2078)

- Currently in school: 75.7%
- History of food insecurity: 31.6%
- Ever migrated since age 13: 18.3%
- Ever been pregnant: 27.1%

Percentage (%) of AGYW
Very high HSV-2 prevalence at baseline and endline
High Incidence rate but non-significantly lower for DREAMS beneficiaries

<table>
<thead>
<tr>
<th></th>
<th>Number with HSV-2 infection</th>
<th>Person time (years)</th>
<th>Incidence/100 person-years (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall (N=1397)</td>
<td>241</td>
<td>1652</td>
<td>15.4 (13.6 - 17.5)</td>
</tr>
<tr>
<td>Non-DREAMS beneficiary (N=590)</td>
<td>109</td>
<td>648</td>
<td>16.8 (13.9 - 20.3)</td>
</tr>
<tr>
<td>DREAMS beneficiary (N=807)</td>
<td>132</td>
<td>914</td>
<td>14.4 (12.2 - 17.1)</td>
</tr>
</tbody>
</table>
HSV-2 risk non-significantly lower among DREAMS-beneficiaries aged 18-22 years
Conclusions

1. Little evidence that DREAMS affected HSV-2 incidence among AGYW in this rural South African setting.

2. HSV-2 prevalence and incidence are both very high and likely to be contributing to the high HIV incidence in this setting.

3. Sexual and reproductive health interventions and condoms need to be scaled up to reach adolescent girls to prevent rapid acquisition of infections soon after sexual debut.
Acknowledgements

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• Partners: [Logos of various partners]