Perinatally infected adolescents and young adults: Moving towards secondary prevention

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- Epidemiology of Perinatally Acquired HIV Infection (PAHIV) in the United States
- Sexual development and transmission risk behaviors of adolescents and young adults with PAHIV
- Intervention strategies for secondary prevention
Epidemiology of Perinatally Acquired HIV Infection (PAHIV) in the United States

- How many people are living with PAHIV in the US?
Persons Living with Perinatally Acquired HIV Infection, Year-end 2009—46 States and 5 U.S. Dependent Areas
N = 9,809

American Samoa 0
Guam 1
Northern Mariana Islands 0
Puerto Rico 277
U.S. Virgin Islands 9

Note. Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.
When will we have estimated data for the nation?
- Next year we will have estimated HIV data that include all 50 states, DC, and 6 US dependent areas.
- Some locations where we know there are relatively large numbers of people with PAHIV, such as Maryland and the District of Columbia, are not yet included, so the estimated number of persons living with PAHIV is likely to increase.

What do we know about the demographic characteristics of persons living with PAHIV?

Race/Ethnicity of persons with PAHIV

Blacks/African Americans made up the majority of persons with PAHIV in 2009 in the US (61%), followed by Hispanic/Latinos (24%), Whites (12%) and those of other or unknown race/ethnicity (3%).

Persons perinatally infected and living with a diagnosis of HIV infection, by race/ethnicity, 2009—46 states and 5 areas with long-term confidential name-based HIV infection reporting.
What proportion are adolescents and young adults?

- In 2008, in the 40 states and 5 US dependent areas with name-based HIV reporting
  - 62.4% of people living with PAHIV in 2008 were ages 13-24
    - 75% were ages 13-19; 25% were ages 20-24
    - 48% males; 52% females
  - In comparison, of those in 2008 living with HIV in the US diagnosed at age 13 or older: 75% males, 25% females

Sexual behaviors of adolescents with PAHIV
Youth with PAHIV are sexually active

- Anywhere from about 1/4 to ½ of 13-24 year-olds with PAHIV are sexually experienced.
  - 27.3-46.5% have had sexual intercourse based on 4 studies with predominantly adolescent and young adults samples*
  - In comparison, national average for high school youth is 46%; for blacks/African Americans it is 65.2%*

...and likelihood of becoming sexually active increases with age

• Predictors:
  – Older age\textsuperscript{1,2,3}
  – Hispanic ethnicity\textsuperscript{1,2}
  – Poorer health or not on ART\textsuperscript{1,3}
  – Live on their own\textsuperscript{1}
  – More externalizing behavior problems, incl drug and etoh use\textsuperscript{2}
  – Greater HIV knowledge\textsuperscript{2}

Some initiate sex early

- Of sexually active youth with PAHIV:
  - 26.3% reported sexual debut before age 15\(^1\)
  - Mean age of first intercourse
    - Girls = 14 years \(^2,3\)
    - Boys, 13\(^2\) or 15 years\(^3\)

\(^1\) Ezeanolue et al., *J Adolesc Health*, 2006
\(^3\) Koenig et al., *J Acquir Immune Defic Synd*, 2010
\(^3\) Fernet et al., *AIDSCare*, 2011
Implications for prevention

- Youth with PAHIV will likely become sexually active as they age and some will become sexually active at an early age.
- Sexual health discussions must be part of regular patient care.
  - Start early...even if provider does not know or think the youth is sexually active.
  - Develop and deliver in care developmentally targeted and aggressive anticipatory guidance.
  - Repeat regularly.
Unprotected Sex

• Of sexually experienced 13-21 year-olds:
  – A mean number of 3 lifetime sex partners was reported\(^1\)
  – 26.8% reported having had unprotected sex since learning their HIV diagnosis\(^1\)

• Of youth with PAHIV who report that first intercourse was protected by a condom, more than half report taking risks in subsequent relationships.\(^2\)

• 22% reported unprotected sex at last intercourse\(^3\)
  – Lower than 2009 national average of 38.9% among US high school students*


Partner exposure

• Just over one-third (34.5%) of PAHIV youth’s recent sex partners had unprotected sex with the PAHIV youth at least once during the prior 3 months
  – All of these sex partners were seronegative or serostatus unknown
  – Disclosure rates to sex partners was low (20%).

• Partner disclosure rates were higher (40%) in a second study, but nevertheless low.

Risk for onward transmission

- No indication that PAHIV youth have more partners than adults with HIV
- However, partners may be at high risk
  - disclosed to less frequently than reported by adults
  - Consistent condom use is low
  - Most are ARV-experienced; likelihood of resistance high
    - Of those tested, 52% had dual class resistance and 12% triple class-associated resistance mutations\(^1\)
    - Adherence is a challenge. When children and adolescents with PAHIV are compared, adherence lower among adolescents and young adults.\(^2\)

Implications for prevention

Risk lies not in how common their sexual behaviors are relative to their peers, but in the potential consequences to their own health and that of their partners because they are seropositive.

Interventions to improve partner disclosure and risk reduction/condom use are needed.
Pregnancy in girls with PAHIV

Reported in the US since 1998¹

- In PACTG 219c cohort,²
  - cumulative incidence of first pregnancy by age 19 was 17.2% among all girls, 24.2% among girls known to be sexually active
  - Beyond first pregnancies (38): 6 second, 1 third pregnancy
  - Rate of first pregnancy among 15-19 year-olds (33.5/1000 person-years) -- not dissimilar to that for general population (39.1/1000 person-years)³

- Most teen pregnancies are not planned; for PAHIV youth that can pose a risk
  - 71% of PAHIV youth report pregnancy intentions⁴

Implications for prevention

• Integrate reproductive health counseling and pregnancy prevention into disease prevention counseling
• Extend to OB/GYN providers caring for girls
• Include boys in guidance for planning future pregnancies
Intervention strategies: Lessons learned from Adolescent Impact

- Clinic-based intervention to improve health and reduce transmission risk of HIV+ adolescents ages 13-21

- Driven by practical issues
  - adolescent population too heterogeneous to support multiple interventions for different youth, particularly group modality

-- providers wanted to address increasing number PAHIV youth aging up into adolescent care
- Developed an intervention that could accommodate all adolescents with HIV both behaviorally HIV infected (BAHIV) and those with PAHIV

- Did this by integrating both group and individual modalities
7 weekly group sessions (educational with experiential learning, topics addressed developmental commonalities, encouraged social connections) ....

integrated with 5 individual sessions (cognitive and behavioral skills development tailored to the health and risk profile of each youth, as revealed through baseline assessment).
What happened in Adolescent Impact?

- Delivered to 166 HIV+ youth (59% PAHIV) in 3 cities*
  - 95% of minority race/ethnicity; 77% non-Hispanic black/African American; 20% Hispanic

- Sites varied in health care model (pediatric; adolescent; mixed model) and delivery was feasible in all three

- Unfortunately, although intervention participants were more HIV knowledgeable at the end, no significant differences in primary health and risk outcomes

- But of course, we learned some important lessons….

*NYU/Bellevue and New York Columbia Presbyterian Hospitals, Dr. Sulachni Chandwani, PI; Children's National Medical Center, Washington DC, Dr. Lawrence D'Angelo, PI; University of Maryland School of Medicine, PACE and STARTRACK Clinics, Dr. Ligia Peralta, PI
Attendance:

Relatively good for both PAHIV and BAHIV youth – particularly for individual sessions due to rescheduling – but better for PAHIV youth, who were significantly more likely to attend all 12 sessions (30% vs 10.7%).

Chandwani et al., *AIDS Educ & Prev.*, 2011
Participant satisfaction was high overall

- Most rated groups as more helpful for behavior change than individual sessions
  - Whereas there were no differences between PAHIV and BAHIV youth, younger were more likely to say this than older participants

- Youth with PAHIV identified more content areas that were helpful compared to BAHIV youth

- PAHIV youth liked learning something new, and enjoyed social aspects of group, more than BAHIV youth

LaGrange et al., *AIDS Care, 2011*
Implications for prevention interventions

- PAHIV youth enjoy groups, and attend regularly. It provides social connection many lack/crave.
- Initial concerns about putting PAHIV and BAHIV together not borne out.
- Include focus on development of skills to support disclosure and consistent condom use.
- Recognize and give voice to developmental challenges of balancing normal adolescent sexual development with HIV disease, and the history of stigma and fear related to disclosure that influence behavior.
Thank you.

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