Contraception in HIV+ Adolescents

Dr Lee Fairlie
SAHIVCS Conference
25 September 2014
Content

• HIV prevention
• Do adolescents need contraception?
• HIV infection in adolescents
• Pregnancy rates
• Legal implications
• Contraception guidelines
• Emergency contraception
• PMTCT
• Risks of unprotected sex specific to HIV+ adolescents
• STIs
• Conclusions
Effective Adolescent Friendly Services require:

- Rights-based approach
- Acceptable, accessible and appropriate services
- Knowledge and skills
- Attitude
- Privacy and confidentiality
- Community awareness
- Community engagement
- Peer education and support
- Participation of adolescent clients
- Multi-sectorial collaboration
FIGURE 1: FOUR PRONGS TO ELIMINATE MOTHER-TO-CHILD TRANSMISSION OF HIV AND IMPROVE MATERNAL HEALTH

Prong 1
Primary prevention of HIV among women of childbearing age

Prong 2
Prevention of unintended pregnancies among women living with HIV

Prong 3
Prevention of HIV from a woman living with HIV to her infant

Prong 4
Provision of appropriate treatment, care and support to women, children living with HIV and their families

Focus of this framework – contribution of prongs 1 and 2 to MTCT elimination

PREVENTING HIV AND UNINTENDED PREGNANCIES: STRATEGIC FRAMEWORK 2011–2015
Are adolescents sexually active??

HSRC survey:
• A tenth of young people report sexual debut before 15 years
• About a fifth of young people (15-19) involved in age-disparate relationships (33.7% female; 4.7% male)
• 12.6% multiple partners past 12 months (>15 years); Males 5 times more likely
Multiple sexual partners by year, sex

![Bar chart showing multiple sexual partners by year, sex.](chart.png)

- Males: 23.0% (2002), 27.2% (2005), 30.8% (2008), 37.5% (2012)

HSRC Report 2012
### HIV Incidence 2012 by age and sex

<table>
<thead>
<tr>
<th>Age groups (years)</th>
<th>Sex</th>
<th>HIV incidence % (95% CI)</th>
<th>Estimated number of new infections (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2+</td>
<td>Total</td>
<td>1.07 (0.87–1.27)</td>
<td>469,000 (381,000–557,000)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>0.71 (0.57–0.85)</td>
<td>151,000 (121,000–181,000)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>1.46 (1.18–1.84)</td>
<td>318,000 (257,000–401,000)</td>
</tr>
<tr>
<td>2–14</td>
<td>Total</td>
<td>0.25 (0.21–0.29)</td>
<td>29,000 (24,000–34,000)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>No incident cases found</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0.49 (0.39–0.59)</td>
<td>29,000 (23,000–35,000)</td>
</tr>
<tr>
<td>15–24</td>
<td>Total</td>
<td>1.49 (1.21–1.88)</td>
<td>139,000 (113,000–175,000)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>0.55 (0.45–0.65)</td>
<td>26,000 (21,000–31,000)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.54 (2.04–3.04)</td>
<td>113,000 (91,000–135,000)</td>
</tr>
<tr>
<td>25+</td>
<td>Total</td>
<td>1.41 (1.15–1.67)</td>
<td>300,000 (245,000–355,000)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>1.21 (0.97–1.45)</td>
<td>145,000 (116,000–174,000)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.28 (1.84–2.74)</td>
<td>251,000 (203,000–302,000)</td>
</tr>
</tbody>
</table>

A quarter of all new HIV infections in this age group
Incidence 4 times higher in females than in males 15-24y
HIV infection in adolescents

• Kharsany et al: Cross sectional survey in schools 2010/2011
  – HIV prevalence learners 15-24 years
  – School A vs school B
  – Prevalence in boys consistently lower (1.3; 1.7%)
  – Girls in school A: 7.7%; Girls in school B 3.2%;
  – BUT 24%(A) and 12%(B) in girls 19-25 years

• QA Karim et al: Incidence rate of 4.7/100wy in < 18 years; 6.9 > 18 years
Risk-taking behaviour in HIV+ adolescents

- PHIV+ mixed findings regarding risky sexual activity and substance abuse
- May delay sexual activity because of concerns regarding HIV, may also be developmentally and neurocognitively delayed
- PHIV+ lower rates of substance abuse and risky sexual behaviour than general adolescent population
- High levels of transactional sex amongst AIDS orphans
- Both groups: those who are sexually active frequently engage in unprotected sex (up to 65%)
- Low rates of disclosure to sexual partners (about a third)
- High risk sexual behaviour and substance abuse associated

Burungi H  *AIDS CARE* 2009; Mellins C *AIDS PATIENT CARE and STDs* 2011; Bauermeister J *Sex Res* 2012; Cluver *JAIDS* 2011; Elkington *J Adol Health* 2009; Youth Risk Behaviour Surveillance 2012 *MMWR*.
Pregnancy and SA adolescents

Table 1: Percentage of females aged 13–19 who were pregnant during the year preceding the survey, 2009–2011 (source: Stats South African General Household Survey 2012:18)
Pregnancy rates in adolescent women

• Up to 30 % of adolescents in SA report ever having been pregnant

• QA Karim et al: Open cohort recruited from FP and STI clinic for longitudinal HIV risk reduction study 2004-2007; KZN

• 27% of women under 18 years HIV+

• Of HIV-
  o Pregnancy rates 23.7 (<18) and 16.4/ 100wy (>18)
Factors Contributing to teenage pregnancy

Contributing factors

- Poverty
- Poor educational attainment
- Gender norms
- Gender-based violence
- Cultural, religious beliefs
- Limited or inconsistent contraceptive use
- Barriers to accessing contraceptives
- Early marriage
- Sexual activity

Source: Flanagan et al, 2013, Teen pregnancy in South Africa: A literature review examining contributing factors and unique interventions
Figure 1: National age distribution of survey participants. Total recruited N = 34,260 during October month, 2012.
The law and adolescent sex

Children’s act:

- Section 15: criminalises acts of sexual penetration by adults with children between the ages of 12 and 16 years, despite their consent
- Section 16 criminalises sexual penetration between consenting young people between the ages of 12–16 years
- Court case 2013: *Teddy bear clinic and partners vs Minister of Justice*: “Constitutional Court found that sections 15 and 16 of the Act are unconstitutional in that they infringe the rights of adolescents (12- to 16-year olds) to dignity and privacy, and further in that they violate the best-interests principle”
The law and contraception

• Adolescents 12 years by law should receive condoms at their request

• Other contraception:
  - at least 12 years of age and
  - proper medical advice is given
  - medical history is taken
  - appropriate examinations
  - ? Medical exclusions

• Right to confidentiality unless concern about physical or sexual abuse, or deliberate neglect

Children’s Act 2010
The law and HCT

• Able to consent to HIV testing if:
  • > 12 years old
  • < 12 years old and able to demonstrate sufficient maturity to understand benefit, risks and social implications

• Maturity assessment (*difficult!!!*)
  - Age
  - Knowledge
  - Views
  - Personal circumstances

Children’s Act 2010
Contraception use

- Gaps in the literature regarding pregnancy intentions and contraception
- US-based review article
  - 51 % PHIV+ adolescents use condoms
  - Injectables alone 21%
  - Condoms & injectables/oral 16%
  - Overall HIV+ more likely to consistently use contraception compared to HIV- (56% vs. 44%)
  - 83% pregnancies unintended
QA Karim et al:
  - Contraception use 43.8% (6m); 51.6% (12m)
  - Any STI symptoms 11.4% (6m); 9.7% (12m)
Carter et al. AIDS PATIENT CARE and STDs. 2013
58.3% 15-24 year olds using condoms, highest percentage age-wise

HSRC Report 2012
What are the barriers to accessing contraception?

• HEALTH CARE WORKER ATTITUDES
• Side effects especially weight gain and mood changes
• Fears of using IUD
• Drug-drug-interactions
• Stopping/irregular periods
• Misinformation or poor education regarding contraception
• Not integrated into HIV care (hospital-based clinics)
Contraceptive options in young women

- **WHO:**

<table>
<thead>
<tr>
<th>MEC categories for contraceptive eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

**MEC** = Medical Eligibility Criteria for Contraception

**WHO 2014**
Summary of recommendations for adolescent contraception

Recommended contraceptive methods for young people:

- Abstinence
- Delay sexual debut
- Barrier method (strong reinforcement of condom use) with highly effective contraception:
  - combined hormonal contraception
  - progestogen-only injection
  - Cu IUD
  - LNG-IUS
  - progestogen-only implant
- Emergency contraception to be promoted and accessible in the event of unprotected intercourse, method misuse or failure
## 20(b) Summary of options for contraception for adolescents living with HIV

<table>
<thead>
<tr>
<th>Method</th>
<th>Common side effects</th>
<th>Common contraindications</th>
<th>Drug interactions – TB Rx</th>
<th>Drug interactions - ART</th>
<th>Prevention</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Condom</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>STI: yes</td>
<td>Promote condom use in all ALHIV. Consistency, correct use and with confidence</td>
</tr>
<tr>
<td>Female Condom</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>HIV: yes</td>
<td>Promote condom use in all ALHIV. Consistency, correct use and with confidence</td>
</tr>
<tr>
<td>COCs</td>
<td>Nausea, intermenstrual bleeding, mild headaches, breast tenderness.</td>
<td>History of thrombosis, hypertension</td>
<td>Rifampicin - do not use together (WHO MEC 3)</td>
<td>RTV-boosted PIs - do not use together (WHO MEC 3) NNRTIs – generally can use, add condom (WHO MEC 2)</td>
<td>STI: no</td>
<td>Client dependant - adherence essential. Can be used where adherence ensured. Combine with condom use</td>
</tr>
<tr>
<td>Injectable (DMPA/NET-EN)</td>
<td>Changes in menstruation (irregular, prolonged, heavy, amenorrhoea) and weight gain</td>
<td>Undiagnosed vaginal bleeding</td>
<td>DMPA: none. (WHO MEC 1) NET-EN: mild interaction with rifampicin. To add condom (WHO MEC 2)</td>
<td>DMPA: none. (WHO MEC 1) NNRTIs – generally can use, add condom (WHO MEC 2)</td>
<td>STI: no</td>
<td>Recent studies have shown that DMPA may increase HIV transmission risk (until further research, WHO recommends continued use; condom use is strongly recommended. (WHO MEC 1) Client independent contraception</td>
</tr>
<tr>
<td>CU IUD</td>
<td>Menstrual changes (bleeding may be heavier, longer and more cramps)</td>
<td>Current AIDS and unwell, current cervicitis/PID</td>
<td>None</td>
<td>None</td>
<td>STI: no</td>
<td>Good, client-independent contraception. May be used as emergency contraception. Can be inserted if well (WHO MEC 2). Note: Unwell HIV positive – WHO MEC 3</td>
</tr>
<tr>
<td>LNG IUD</td>
<td>Irregular and infrequent bleeding initially with development of amenorrhoea later.</td>
<td>Current AIDS and unwell, current cervicitis/PID</td>
<td>None</td>
<td>None</td>
<td>STI: no</td>
<td>Not currently available in the PHC setting. Good client-independent contraception. Cannot be used for emergency contraception. Combine with condom use. Can be inserted if well (WHO MEC 2). Note: Unwell HIV positive - WHO MEC 3</td>
</tr>
<tr>
<td>Progestogen-only implants</td>
<td>Irregular bleeding and amenorrhoea, but less pronounced than with injectables</td>
<td>Undiagnosed vaginal bleeding</td>
<td>Mild interaction with rifampicin. To add condom (WHO MEC 2)</td>
<td>Mild interaction with PIs and NNRTIs. To add condom (WHO MEC 2)</td>
<td>STI: no</td>
<td>Good client-independent contraception. Combine with condom use</td>
</tr>
<tr>
<td>Emergency contraceptive pills</td>
<td>Nausea, vomiting, headaches, fatigue, cycle irregularities</td>
<td>Incident occurred more than 120hrs ago</td>
<td>With Rifampicin. No dose adjustment recommended</td>
<td>With PIs. No dose adjustment recommended</td>
<td>STI: no</td>
<td>All clients should be aware of the availability of this method. Consider emergency IUCD use where pill use is inappropriate</td>
</tr>
</tbody>
</table>
# Quick Reference Chart for the WHO Medical Eligibility Criteria for Contraceptive Use

## Conditions and Contraceptive Options

<table>
<thead>
<tr>
<th>Condition</th>
<th>COC</th>
<th>DMPA</th>
<th>Implant</th>
<th>Cu-IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NC</td>
</tr>
<tr>
<td>Less than 6 weeks postpartum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 weeks to &lt; 6 months postpartum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 months postpartum or more</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 21 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 days to 42 days with other risk factors for VTE*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 hours including immediate post-placental</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td></td>
</tr>
<tr>
<td>48 hours to less than 4 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postpartum (non-breastfeeding)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 21 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 days with other risk factors for VTE*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 48 hours including immediate post-placental</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td></td>
</tr>
<tr>
<td>48 hours to less than 4 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postabortion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate post-septic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥ 35 years, &lt; 15 cigarettes/day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥ 35 years, &gt; 15 cigarettes/day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple risk factors for cardiovascular disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of (where BP cannot be evaluated)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP is controlled and can be evaluated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevated systolic blood pressure (BP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevated diastolic blood pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vascular disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep venous thrombosis (DVT) and pulmonary embolism (PE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of DVT/PE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute DVT/PE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVT/PE, established on anticoagulant therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major surgery with prolonged immobilization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Known thrombotic risk factors for cardiovascular disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischemic heart disease (current or history of) or stroke (history of)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complicated valvar heart disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systemic lupus erythematosus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive or unknown antiphospholipid antibodies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe thrombocytopenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immunosuppressive treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headaches</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-migrainous (mild or severe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migraine without aura (age &lt; 35 years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migraine without aura (age ≥ 35 years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migraine with aura (at any age)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unexplained vaginal bleeding (prior to evaluation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes
- **Category 1**: There are no restrictions for use.
- **Category 2**: Generally used; some follow-up may be needed.
- **Category 3**: Usually not recommended; clinical judgment and continuing access to clinical services are required for use.
- **Category 4**: The method should not be used.

---

*VTE: Venous Thromboembolism, BMI: Body Mass Index, ARV: Antiretroviral Therapy*

---

**References**

Emergency contraception

• Need to inform adolescents that this is an option for them
• CU IUD: Inserted within five days of unprotected intercourse, most effective form of emergency contraception available
• Emergency contraceptive pill: one dose of levonorgestrel 1.5 mg, taken within five days (120 hours) of unprotected intercourse
• Opportunity for intervention: unprotected intercourse/misuse or failure contraception or sexual assault
Specific points.....

• Concern regarding EFV and Implanon-> may be up to 12 % reduction in efficacy
• PI and COC
• With CU IUD, increased bleeding, may be increased risk factor for transmission of HIV
• DMPA may increase risk of HIV acquisition
• WHO:

“Given the importance of this issue, women at high risk of HIV infection should be informed that progesterone-only injectables may or may not increase their risk of acquisition.”
Adolescents and PMTCT

• Horwood et al:
  o HIV prevalence, health care usage (ANC&PNC) women age 12-39 attending 6 EPI clinics in KZN
  o Adolescent women compared to over 20 years
  o Higher numbers adult women reported being HIV+; having a CD4 count done; receiving the result and access to PMTCT
  o Higher transmission rate in adolescent mothers: 10.8% vs 6.1%
  o Worrying: this despite adolescent mothers being as likely as adults to attend 4 clinic visits

= SYSTEM FAILING YOUNG HIV+ MOTHERS AND THEIR CHILDREN
Potential impact of risky sexual behaviour

• Recent study PHIV+
  – 28% reported sexual intercourse; median age of coitarche of 14 years; 62% reported unprotected sexual intercourse, and only 33% of youth disclosed their HIV status to their partners
  – For those not sexually active at baseline ART non-adherence was associated with sexual debut
  – Genotypic resistance in the 42% of sexually active youth with viral loads ≥5,000 copies/mL, identifying 62%, 57%, 38%, and 22% to NRTIs, NNRTIs, PIs, and all 3 ARV classes, respectively
  – Concern for secondary transmission (horizontal and vertical) multi-resistant HIV

Tassiopoulos CID 2013
STI management

• Syndromic approach: WHO/local guidelines
• Opportunity for education regarding STI and prevention (including HIV)
• Opportunity for HIV testing
• Opportunity to offer contraception and re-enforce condom use
• Offer treatment of current sexual partner
• Need to handle sensitively
STI: Syndromic Approach

Males
- Male urethritis syndrome
- Genital ulcer syndrome
- Scrotal swelling/pain
- Balanitis/balanoposthitis (BAL)
- Bubo
- Genital warts
- Pubic lice

Females
- Vaginal discharge syndrome
- Candidiasis/bacterial vaginosis
- Lower abdominal pain
- Genital Ulcer Syndrome
- Bubo
- Genital warts
- Pubic lice
There is a significantly high prevalence of HSV-2 in the HIV positive, compared to HIV negative women, 89.1% vs. 42.5%;

Figure 50: HSV-2 prevalence among antenatal women by age group, Gauteng, KwaZulu-Natal, Northern Cape and Western Cape, 2012. (Source: NDoH, 2013)
Pre-and post exposure prophylaxis

• PrEP studies have not included adolescents because of issues around consent

PEP:

• Offer post a sexual assault
• Offer to the partner of a discordant couple if burst condom or unprotected sex
• Follow PEP guidelines
Conclusions

• Adolescents are sexually active and need full access to SRH services
• This requires youth friendly services and the correct attitude from HCW
• Many contraceptive options available
• Recognise and treat STIs
• Beware the contradictions in the law!
Acknowledgements

• Dr Howard Manyonga
• Dr Candice Fick