UNICEF Learning Collaborative

Summary of Selected Research Articles
October - December 2017

Topic I: Adolescents and HIV

Adolescents living with HIV have unique needs and retention in care can be especially challenging for this population. Adolescent support groups "teen clubs" can provide a source of social support that helps to improve retention and adherence. HIV prevention among adolescents also remains challenging because there are multiple factors that can place adolescents at risk. Risk perception, especially among adolescent girls and young women (AGYW) remains low despite high levels of general knowledge about HIV. Further efforts are needed to support adolescents, especially AGYW, to understand and appreciate their own risk and to identify the most appropriate prevention strategies to protect themselves from acquiring HIV.

Mackenzie, Rachel, et al., 'Greater retention in care among adolescents on antiretroviral treatment accessing "Teen Club" an adolescent-centered differentiated care model compared with standard of care: a nested case–control study at a tertiary referral hospital in Malawi', *Journal of the International AIDS Society*, vol. 20, 27 November 2017.

- Nested case-control study reviewed the impact of a "Teen Club" on treatment retention of adolescents aged 10-19 years of age at the Zomba Center hospital in Malawi.
- The study involved 617 adolescents living with HIV; 135 cases and 405 controls. Cases represented patients not retained in care when data was extracted (2004 - 2015).
- Exposure to the Teen Club package is associated with a 3.7-times lower odds of attrition than not being exposed to Teen Club. Older adolescents (15-19 year olds) had higher rates of attrition than younger adolescents.
- Key aspects about the teen club that lead to its positive impact on retention still need to be determined.

Price, Joan T., et al., 'Predictors of HIV, HIV Risk Perception, and HIV Worry among Adolescent Girls and Young Women in Lilongwe, Malawi', *Journal of Acquired Immune Deficiency Syndromes*, 4 October 2017.

- Cross-sectional analysis of baseline data from an ongoing study on sexually active adolescent girls and young women (AGYW) 15-24 years of age at 4 health facilities in Lilongwe, Malawi.
- Baseline data from 1000 AGYW collected at health centers to assess 4 different service delivery models.

- Having more risk factors was associated with higher HIV prevalence and higher risk perception and worry. But half of those with 8 or more risk factors did not view themselves to be at high risk.
- After adjusting for age, the following 3 individual characteristics were associated with HIV infection: 1) ≥ 3 sexual partners in the past year; 2) heavy alcohol use; and 3) heavy alcohol use.
- After adjusting for age, the following were 6 predictors of HIV risk perception among AGYW who reported being uninfected: 1) no running water; 2) ≤2 household assets; 3) pregnancy history; 4) partner travel; 5) partner concurrency; and 6) transactional sex
- After adjusting for age, the following were 3 predictors of HIV worry among AGYW who reported being uninfected: 1) partner travel; 2) partner concurrency; and 3) older partner.
- Partnership factors were more strongly correlated with risk perception and worry than individual behaviour.
- Study found that perceived risk of HIV infection was low among AGYW, even among those at the highest risk.

Butts, SA, et al., 'Let Us Fight and Support One Another: Adolescent Girls and Young Women on Contributors and Solutions to HIV Risk in Zambia', *International Journal of Women's Health*, vol. 9, 28 September 2017, pp. 727-737.

- Qualitative study conducted from February - August 2016, designed to understand how adolescent girls and young women (AGYW) in Zambia perceive HIV risk. Focus groups of AGYW with 225 girls from 10 districts in Zambia to discuss perceived risk and potential strategies for HIV prevention.
- Participants expressed that gender inequality was the most salient contributor to HIV vulnerability among AGYW, while poverty and stigma were major barriers to accessing HIV prevention services as well as primary risk factors for HIV infection.
- Authors highlighted that multilevel interventions designed to address socio-cultural norms that compromise self-efficacy should be developed.
- Structural interventions such as financial assistance for school attendance, enforcement of domestic violence laws, increased presence of females in the workplace as well as providing financial assistance and economic opportunities for those most at risk were also recommended.
- Gender-based sensitization for both men and women along with formal education, especially in rural areas was suggested by participants to reduce gender inequality. To reduce stigma, participants indicated that community sensitization must emphasize the benefits of ART and the importance of support systems to increase uptake of HIV testing and treatment.

Psaros, Christina, et al., 'HIV Prevention among Young Women in South Africa: Understanding Multiple Layers of Risk', *Archives of Sexual Behavior*, 13 November 2017, pp. 1-14.

- Qualitative study in KwaZulu-Natal, South Africa (June 2011 - March 2012) focused on understanding the what contributes to HIV risk among young women.
- Data was collected through in-depth interviews of 35 pregnant women 18-21 years of age, 18 healthcare providers, and focus groups with 19 community leaders.
- Results indicated that women had knowledge of HIV and nearly ⅓ were living with or affected by HIV, but lack the resources and support to overcome the risks they encounter.
- Participants discussed well-established risk factors such as orphanhood, condom burn out, social isolation, impact of stigma. However, this study revealed some additional risk factors: HIV prevention fatigue linked to attitudes of invincibility, lack of meaningful adult relationships, and partnership dynamics and gender inequities which make condom negotiation difficult.
- Many traditional HIV prevention strategies are one-dimensional and it is important to consider the interplay of these risk factors and how they impact on HIV prevention efforts among AGYW.

Topic II: Stigma and HIV

HIV-related stigma and discrimination continue to be significant obstacles faced by people living with HIV (PLHIV), who often face assault, discriminatory policies, challenges in accessing healthcare, or even involuntary sterilisation. Severe levels of stigma not only cause a strain on their mental health, but also hinder people from accessing care and treatment, and impairs adherence. Studies have consistently shown that people living with HIV experience more stigma compared to other individuals diagnosed with other diseases.

Kalomo, Eveline N., 'Associations between HIV-Related Stigma, Self-Esteem, Social Support, and Depressive Symptoms in Namibia', *Journal of Aging and Mental Health*, 11 October 2017, pp. 1-7.

- Cross-sectional study aimed to understand the individual, family, community and structural determinants of health for PLHIV. Data collected between June and September 2016.
- Correlation analysis conducted across a sample of 124 men and women living with HIV revealed that HIV-related stigma, self-esteem, and social support were all significantly correlated with depression.
- HIV-related stigma was the largest risk factor and self-esteem was the largest protective factor with respect to depressive symptoms. Study results showed that stigma has the potential of compromising treatment plans, limiting access to counselling, testing and prevention, and can lead to truncated or delayed diagnosis, prevention, treatment, care and support.
- To prevent, detect and treat depression among PLHIV, authors recommend interventions that promote mental health and wellbeing and focus on building the capacity and stability of families, as family units provide high levels of social support.

Appropriate screening for depression and coping assessments is an important component of comprehensive care for PLHIV.

Treves-Kagan, Sarah, et al., 'Gender, HIV Testing and Stigma: The Association of HIV Testing Behaviours and Community-Level and Individual Level Stigma in Rural South Africa Differ for Men and Women', *AIDS and Behaviour*, vol. 21, 5 January 2017, pp. 2579-2588.

- This population-based prospective cohort study (February to June 2012) analyses the relationship of anticipated stigma at an individual level and community level in South Africa, using multilevel regression analysis to estimate the potential effect of reducing community-level stigma on testing uptake.
- Data collected from Study showed that individually-held anticipated stigma was more closely associated with men's HIV testing uptake, while women's testing patterns were associated with community levels of stigma.
- Men tested less frequently and reported more anticipated stigma than women – with 43.3% of men and 78.9% of women reporting having tested in the last 12 months. Individual anticipated stigma was 5 times higher for men than women.
- For women, each percentage point reduction in community-level stigma constituted a 3% increase in the likelihood of them getting tested.
- Men have been less engaged, and there needs to be more of a focus in normalising clinical visits, which are seen as a 'feminine' or 'weak' response to illness. Expanding entry points for testing is also recommended (ie socially acceptable pathways to clinic use – home based, mobile based, or testing in majority-male spaces).

Topic III: Male engagement

This research adds to existing evidence that male partner involvement has a positive impact on PMTCT outcomes. These studies recommend that strategies to promote male engagement taking into account perspectives and socio-cultural norms about masculinity and offer services at more convenient times and locations.

Matseke, Motlagabo G, et al., 'Factors Associated with Male Partner Involvement in Programs for the Prevention of Mother-To-Child Transmission of HIV in Rural South Africa', *International Journal of Environmental Research and Public Health*, vol. 14 (11), 1 November 2017, pp. 1333.

- Secondary cross-sectional data analysis to determine the prevalence and determinants of male partner involvement (MPI) in rural South Africa based on data from a clinical trial from April 2015 to January 2017.
- The sample include 463 male partner of HIV infected pregnant women that took part in a questionnaire on topics related to participation in antenatal care.
- MPI is associated with greater PMTCT success. Factors associated with greater MPI were: living together, HIV status, awareness of female partner's positive HIV status, female partner's desire to have more children in the future, having talked to

healthcare provider about trying to get pregnant in the future, condom use to prevent HIV and STIs, and partner's reasoning skills.

McGrath, Christine J., et al., 'Non-Disclosure to Male Partners and Incomplete PMTCT Regimens Associated with Higher Risk of Mother-To-Child HIV Transmission: A National Survey in Kenya', *AIDS Care*, 11 November 2017, pp. 1-9.

- Cross-sectional study that assessed the relationship between PMTCT effectiveness, non-disclosure and adherence on the general population and among HIV positive women in Nyanza Province, Kenya from June - December 2013.
- Transmission risk (TR) was calculated and compared with two cohorts of infants at 6 weeks and 9 months. National MTCT rates were 8.8% and 8.9% respectively. Nyanza's TR was significantly lower at 1.4% and 5.1% respectively.
- Nyanza Province performed better compared to the national data on PMTCT completion, non-disclosure, and transmission risk.
- Higher rates of disclosure was associated with lower transmission risk and higher rates of retention in PMTCT services.

Sharma, Monisha, Ruanne V. Barnabas and Connie Celum, 'Community-Based Strategies to Strengthen Men's Engagement in the HIV Care Cascade', *PLOS Medicine*, vol. 14 (4), 11 April 2017.

- This is a scoping review which references previous studies works related to community engagement programs that target men.
- Community-based interventions should be tailored to the needs of men to maximise uptake – for example, offering services outside of working hours and integration of HIV testing into chronic disease screening.
- Study offers male-centred approaches to allow men to be more engaged with HIV-related care. These include: increasing mobile and home HTC options; increasing access to self-testing; integrating HTC into mobile multi-disease campaigns, diabetes or prostate cancer screening, or general health checks; prioritising educational initiatives to reduce stigma; providing community-based ART delivery; establishing peer support groups for men, which take into account men's concerns about their masculinity, responsible fatherhood and skills training; and financial incentives to offset travel costs and missed work.

Topic III: HIV Drug Resistance

The elimination of HIV/AIDS as a public health problem calls for accelerated and multifaceted efforts to expand the reach and quality of treatment regimes and healthcare services. HIV drug resistance (HIVDR) is an obstacle that needs to be urgently addressed to ensure that these programs are effective – its prevalence has has increased from 11% to 29% since the global rollout of antiretroviral therapy (ART) in 2001. The prominence of non-nucleoside reverse-transcriptase inhibitor pretreatment HIV drug-resistance (NNRTI

PDR) has been increasing globally, and have reached or exceeded 10% in 6 of 11 countries surveyed by the WHO. If levels of HIVDR further increase, they may compromise the ability to reach the UNAIDS goal of 90% of all people taking ART having suppressed viral loads. Minimizing HIVDR is critical in the broader global response to antimicrobial resistance.

Beyrer, Chris, and Anton Pozniak, 'HIV Drug Resistance – An Emerging Threat to Epidemic Control', *The New England Journal of Medicine*, vol. 377 (17), October 2017, pp. 1605-1607.

- In this commentary, authors highlight the importance of viral load monitoring of all HIV-infected individuals who have not yet receiving newer ART regimens with higher genetic barriers to resistance.
- Dolutegravir (DLG) is an integrase inhibitor with a high resistance barrier, high success rates and fewer side effects. It is also 20-50% cheaper than WHO-recommended regimens.
- Authors assert that using DLG as first-line therapy could markedly reduce HIVDR.
- More data collection on the use of integrase-inhibitor-based regimens during pregnancy and in patients with tuberculosis-HIV coinfection is needed.
- More robust drugs with higher resistance barriers may help solve some of the problems associated with HIVDR, but the challenges of logistics, adherence, and funding remain.

Siberry, George K., et al., 'Impact of Human Immunodeficiency Virus Drug Resistance on Treatment of Human Immunodeficiency Virus Infection in Children in Low- and Middle-Income Countries', *The Journal of Infectious Diseases*, vol. 216, October 2017, pp. 838-842.

- This article considers the impact HIV drug resistance has on children in low- and middle- income countries (LMIC).
- Not achieving viral suppression during pregnancy and breastfeeding as well as exposure to infant antiretroviral prophylaxis can lead to high rates of acquired drug resistance in children, who experience higher rates of virologic failure than adults in LMICs and are at of higher risk of ART failure
- Of 230 South African infants and children aged <2 years who were newly diagnosed with HIV in 2011, 67% had ARV exposure directly or indirectly, and 33% had no reported history of exposure.
- In LMICs, individual patient baseline HIVDR testing is generally unavailable, which makes it difficult to distinguish between pretreatment drug resistance (PDR) and acquired drug resistance (ADR) in patients experiencing first-line ART failure.
- To minimize HIVDR, authors recommend routine dose adjustments (particularly in the first year), as drug disposition changes significantly during that period
- Child-friendly drug formulations also need to be developed to make medicine more palatable as well as encourage adherence.

Phillips, Andrew N., et al., 'Impact of HIV Drug Resistance on HIV/AIDS-associated Mortality, New Infections, and Antiretroviral Therapy Program Costs in Sub-Saharan Africa', *The Journal of Infectious Diseases*, vol. 215, May 2017, pp. 1362-1365.

- Authors used an individual-based simulation model that took into account HIV transmission, progression, and the effect of ART to estimate the impact of HIVDR on mortality, new infections and costs.
- 5-year projections were generated to reflect a range of settings in sub-Saharan Africa with respect to (i) HIV prevalence, (ii) HIV incidence, (iii) ART uptake, and (iv) transmitted HIVDR.
- Based on these projections where current levels of pre-treatment HIVDR in sub-Saharan Africa are > 10% there would be a 8% lower viral suppression rate in those on ART, 16% HIV deaths per year, 9% new infections and 8% higher ART costs attributable to HIVDR ($6.5 billion).
- Authors recommend that countries should prioritise the reduction of HIVDR even if their pretreatment HIVDR levels are low, as the study's estimates indicate that even where pretreatment HIVDR levels are <10%, resistant virus is responsible for a significant extra burden of new AIDS deaths and additional costs.
- Important for countries to follow WHO recommendations on viral load monitoring to reduce the rate at which resistance emerges, accumulates and transmits.

Topic IV: Retention

Retaining women in HIV care in the postpartum period remains a challenge and explains higher rates of MTCT during breastfeeding. Research from Malawi shows that children born to mothers living with HIV who are not on ART have higher rates of loss to follow-up. Improving retention of mothers is closely linked to testing and treatment uptake among children. Therefore it is critical to reduce attrition rates and address the underlying reasons for stopping ART and not returning to health facilities after giving birth. A study in South Africa demonstrated that providing financial incentives to encourage mothers and their children to remain in care was feasible and acceptable. Interestingly, when asked, mothers preferred other strategies such as integrated services and counseling over financial incentives to motivate them to stay in care.

Haas, Andrew D., et al., 'HIV Transmission and Retention in care among HIV-Exposed Children Enrolled in Malawi's Prevention of Mother-to-Child Transmission Programme', *Journal of the International AIDS Society*, vol: 20, September 2017, pp: 219-474.

- First study to estimate MTCT risk at the end of breastfeeding in Malawi's Option B+ programme with data collection occurring between September 2011 and June 2015.
- PMTCT outcomes (Discharged HIV Free, Lost to follow-up, Initiated ART, and Death) for 11,285 children at risk of HIV infection were analysed based on data from 21 health facilities.

- 288 children (2.6%) were diagnosed with HIV - the cumulative incidence was 0.8% by age 8 weeks, 2.7% by age 12 months and 5.3% by age 30 months.
- Although mother-to-child transmission rates were low (5.3%), postpartum transmission are higher than during pregnancy or delivery, because many women adhere poorly to ART postpartum, or discontinue ART before weaning.
- Because of poor retention among mothers, only about half of HIV-infected children were diagnosed. Higher loss to follow-up was observed among children born to women who were not on ART.
- Authors recommend improving the identification of children lost to follow-up and expansion of HIV testing in outpatient clinics to identify children missed in the PMTCT programme so they can start treatment immediately.

Clouse, Kate, et al., 'Acceptability and Feasibility of a Financial Incentive Intervention to Improve Retention in HIV Care Among Pregnant Women in Johannesburg, South Africa', *AIDS Care*, 25 October 2017, pp. 1-8.

- Pilot study, from May 2015 - March 2016, assessed the acceptability and feasibility of a financial incentive (a one-time supermarket voucher) for completing one postpartum visit under 10 weeks, to determine if this improved retention in HIV care after delivery.
- Study took place at a primary health clinic in Johannesburg, South Africa, and enrolled 100 pregnant women living with HIV to assess preferred types of incentives.
- Structured questionnaire administered along with a one-time Pick-n-Pay supermarket voucher for completing 1 postpartum visit to the clinic within 10 weeks of delivery.
- Participants ranked incentives in the following order: assistance with social services, infant formula and cash.
- 86% of women responded at enrolment that the voucher would motivate them to return to the clinic and 76% received a voucher - confirming its feasibility.
- 14% of women who did not think the financial incentives would motivate them to return for treatment cited personal responsibility for their own health as their primary motivation. They would return to the clinic even without a voucher.
- While the results show that financial incentives are acceptable, participants preferred integrated services and counselling as interventions to improve retention.