

**ICAP Collaborative PMTCT and Pediatric HIV Strategic Planning Workshop
In Partnership with Tygerberg Children's Hospital, South Africa and S2S**

Title:	Pediatric TB/HIV co-infection: Where are we one year later? Where should we be going now?
Country:	South Africa, Stellenbosch University, Cape Town
Host Name/Title:	Ben Marias, Associate Professor of Pediatrics, Stellenbosch University
Session Goal:	
Learning Objectives:	<ol style="list-style-type: none"> 1. To describe new and existing data on tuberculosis in HIV-infected children with particular attention to diagnosis, co treatment of TB and HIV, infection control and prophylaxis 2. To design strategies for infection control, contact tracing and prophylaxis for local programs to implement 3. To assess the feasibility and applicability of the proposed strategies for country programs
Instructional Method(s):	<ul style="list-style-type: none"> • Lecture format with open-ended question and answer period • Small group work
Session Description (with times):	<p>1-20 minutes: Dr Marias will provide a review of an overview of advances in TB diagnosis and treatment in the context of pediatric HIV infection. The review will focus on practical methods to implement infection control measures, contact tracing , identification of latent TB infection (LTBI) and administration of prophylactic treatment</p> <p>21-35 minutes: Open discussion and questions and answer s</p> <p>36-65 minutes: Participants will be divided into three small groups to address one of the following topics: Group 1: Implementation of infection control measures Group 2: Systems for contact tracing and identification of LTBI Group 3: Implementation of prophylaxis guidelines</p> <p>Each group will use a flip chart to outline an approach, identify limitations and challenges and construct a set of practical solutions on the program and site level</p> <p>66-90 minutes:</p> <ul style="list-style-type: none"> • Each group will be asked to report back, (5min) and receive questions • Dr Marias will summarize the findings • Participants will receive several review articles to support the work

Session Notes and Summary

Session name: Pediatric TB/HIV co-infection: Where are we one year later? Where should we be going now?

Note taker name: Ruby Fayorsey

Major Discussion Points and/or Conclusions:

1. HIV infection is fuelling the TB epidemic in Africa, in Eastern Europe the epidemic is fuelled by increasing drug resistance. This shift has resulted in increasing incidence in younger adults of child bearing age and as such increase incidence in children. TB is the second most common pathogen in children with acute community acquired pneumonia (CAP) who failed to respond to empiric antibiotic therapy.
2. Key message is prevention of TB acquisition; prevent development of TB disease, early diagnosis and early effective treatment.
3. Prevent infection –risk following exposure depends on age. Children < 3 years and HIV-infected persons have the highest risk of developing TB disease after exposure. Nosocomial transmission is increasing because of large vulnerable persons in Health Care settings and high intensity TB exposure.
4. Prevent disease- Vaccination with BCG and post exposure prophylaxis. Preventive therapy using INH is the most effective way to prevent disease. However, INH is not widely available and where it is available, there are frequent stock outs. Recommendation is to give prophylaxis to those children at most risk. Criteria for prophylaxis of close contacts (staying at the same address when child was diagnosed, or living under same roof, or share same kitchen or bathroom)
 - a. Asymptomatic :
 - i. If < 3 years (high risk) give INH prophylaxis
 - ii. If > 3 years (low risk) observe closely for signs of TB
 - b. Symptomatic
 - i. Exclude active TB
5. Early diagnosis and treatment – TST is not feasible in most Sub Saharan African countries. Even when available there is difficulty interpreting results. TST was introduced in SA last year. However, there is a lot of confusion regarding reading and interpretation of results amongst HCW. New tests on the horizon, Quantiferon and T-Spot, both are expensive. In the absence of TST, need to rely on symptom based screening. Sensitivity and specificity of the symptom screened depends on how well the symptoms and signs are described.
 - a. Fever, cough , failure to thrive, lethargy, visible adenopathy
6. Infection control very important however little attention has been paid to this. Risk of nosocomial transmission is very high.
7. Does provision of INH increase risk of development of INH resistance in children?

Since children have paucibacillary disease they are less likely to develop resistance. If they should develop resistance the risk is just to themselves, not a public health hazard like adults since children usually do not transmit disease to adults, because of less likely hood of cavities and low organism burden.
8. What is the utility of gastric aspirates in children?

Difficult to obtain and must be used for culture. However, whatever measures you can take to arrive at a bacteriologic diagnosis will be helpful. Concerns about gastric aspirate are delay in transporting sample to lab may result in low yield because of gastric acid which kills bacteria. Sample must be taken early in the morning before children get out of bed and before eating or drinking.
9. Define House hold contact?

One who shares the same address as the child at the time the child was diagnosed with TB. Other definitions, live under the same roof, share the same bathroom or kitchen
10. How can you determine which children should get INH prophylaxis since diagnosis of TB is difficult in children?

For children who are HH contacts of smear positive TB those at highest risk are children < 3 years of age. If they, are completely asymptomatic they should be given INH prophylaxis. For low risk children i.e., > 3 years and asymptomatic observe closely. Any child who is symptomatic should be screened for active TB. All HIV-infected children who are HH contacts should be given INH prophylaxis after excluding active TB regardless of age.

Group Assignments-participants were divided into two groups (infection control and INH guidelines) and asked to answer the following questions on a flip chart.

1. What is the status quo in your country?
2. What are some practical measures you can take to improve this?
3. How can ICAP help to achieve this?

Group A – TB infection Control

1. What is the status quo in your country?

Currently there no infection control measures in most countries. SA and Rwanda have plans under way to pilot infection control measures at their ART clinics. However, since in some settings children are seen elsewhere this will not include pediatrics.

2. What are some practical TB infection control measures to implement?

1. Administrative:
 - a. Infection Control Office- person responsible for TB infection control in the hospital
2. Environmental
 - a. Restructure clinic to ensure good air flow
 - b. Use exhaust fans
 - c. Modify infrastructure. e.g., in SA TB clinic has a coughing room with retractable ceiling
3. Health Care workers, lab technicians , orderlies, non clinical staff
 - a. Training on TB infection control, importance of nosocomial transmission and protecting yourself and the clients
 - b. Use of universal precautions, and facemasks to transport TB around the hospital
 - c. HCW should teach patients cough etiquette (turn away from provider when coughing)
 - d. Screen health care workers with symptom screen and TST if available
4. Patients
 - a. Triage to identify coughing patients early at registration
 - b. Screening using symptom based screening for all patients
 - c. Expedite visit so they are removed from general clinic area
 - d. Teach cough etiquette (provide tissues, handkerchiefs etc.)
 - e. In inpatient settings, screen parents /care providers with child since they are more likely to transmit if they have TB.

3. How can ICAP help to achieve this?

1. Advocacy for TB and HIV integration
2. Funding for TB activities in COP 09
3. Infrastructure development
4. Medical engineers as consults for hospital construction/ renovations
5. Job aides for staff, teaching material for clients e.g., posters on cough etiquette, handkerchiefs
6. Sharing best practices between programs and between countries

Group 2 -INH Preventive therapy

1. What is the status quo in your country

Nigeria, Mozambique, Kenya and Tanzania have INH prophylaxis guidelines but there are no drugs and it is not implemented. In Rwanda all children < 5 years with HH contact of smear (+) case, screen for active TB and give prophylaxis. In Ethiopia, guidelines exist however there are frequent drug shortages.

2. Practical ideas on how to improve this

1. Political commitment and will
2. Update and disseminate IPT guidelines timely and widely
3. Sensitization and training of HCW on IPT
4. Strengthen TB /HIV collaboration
5. Evaluation of implementation process and feed back
6. Provision of appropriate tools (for diagnosis, checklists, job aides etc.)
7. Improve follow-up mechanisms to improve adherence)

3. How can ICAP help to achieve this ?

1. Advocate at national level for IPT
2. Training of HCW on IPT
3. Preparing and disseminating guidelines
4. Appoint TB/HIV focal person
5. Procurement of INH

Agreed Upon Next Steps:

Participants agreed that they would

- Advocate implementing infection control measures at our sites not only in the ART clinic but in other areas of the hospital where children are seen e.g., general OPD, inpatient wards etc
- Work on national TB infection control guidelines within country
- Train HCW and support use of INH for LTBI