

***M.leprae* in healthy individuals and transmission of leprosy**



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Background

- Sources of infection
 - Patterns of exposure
 - Mode of transmission
 - Early immune response
 - Development Polymerase Chain Reaction
 - Development of methods to assess mucosal immunity
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Community Surveys

- **Indonesia (Klatser, van Beers et al)**
 - **India (Smith et al)**
 - **Ethiopia (Beyene et al)**
 - **Norway (Jadha et al)**
 - **Nasal swabs**
 - **PCR analysis – *pra* gene**
 - **Immunology**
 - **PGL1 serology**
 - **IgA saliva**
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Cross Sectional Studies

- **Recruitment and consent**
 - **Interviews**
 - **Clinical Examinations**
 - **Collection of Nasal Swabs (PCR)**
 - **Collection of Saliva/Blood Specimens**
 - **Follow-up**
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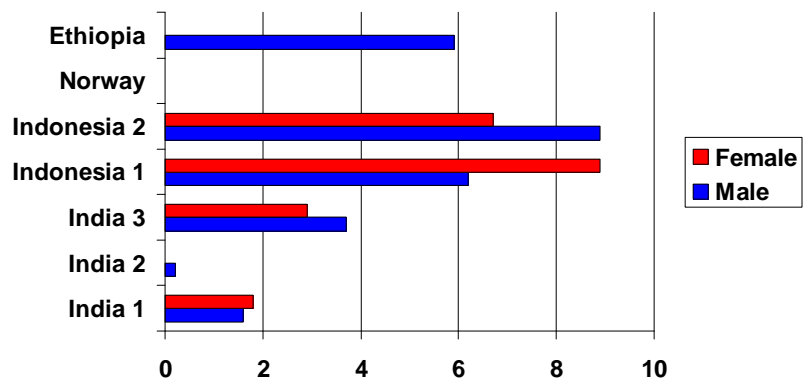


Sample Sizes

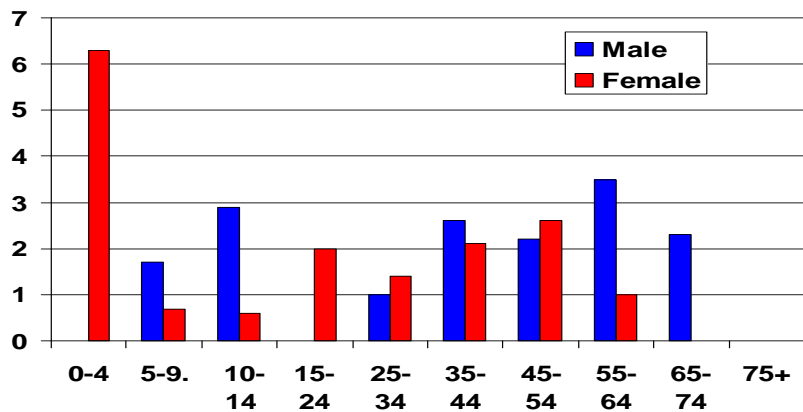
Ethiopia	589
Norway	219
Indonesia 1	702
Indonesia 2	562
India 1	907
India 2	861
India 3	784



Study Population: PCR positive %



Study Population (India): PCR positive (%) by age and sex



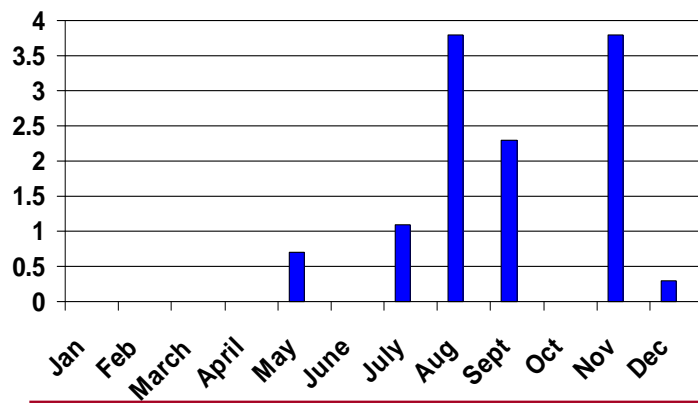
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Consistent Findings in all Surveys

- No association with age
- No association with gender
- No household clustering
- No association with BCG status
- Follow-up showed +ves transient
- No association with PGL1 or IgA

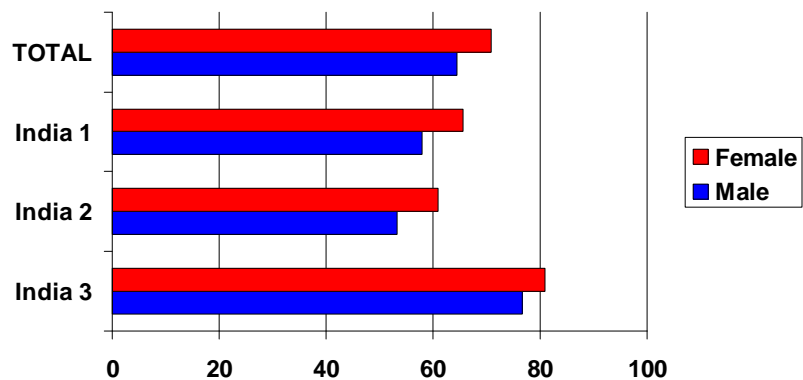
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Season patterns of PCR positives



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Study Population: Salivary IgA Positive (%)



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Summary: Nasal PCR findings

Consistent geographically – all right or all wrong

No usual pattern of associations – age, sex, contact status, households, BCG

Strong seasonal pattern

Positivity seems transient

No association with immune response



Exposure, Immune Response and Disease

Is this another environmental mycobacteria

Lack of association with the variables related to leprosy

Lack of relationship to immune response

Nature and frequency of exposure

Co-infections

Genetic factors

Difficult to link to disease - Long incubation and very low incidence of disease

Streptococcus - consistently found in throat swabs

- transient in individuals

- no clear association with disease

M.leprae is present in leprosy endemic communities

