



# Gender and Tuberculosis

Globally, 8.4 million people are estimated to develop tuberculosis (TB) each year, and nearly 2 million deaths result from the disease. Overall, one-third of the world's population is currently infected with the tuberculosis bacillus, over 90 per cent of them in developing countries.

It is the poorest people from the poorest countries who are most affected by tuberculosis. Not only are they more vulnerable to the disease because of their living and working conditions, they are also plunged deeper into poverty as a consequence of tuberculosis. A person with TB loses, on average, 20-30 per cent of annual household income due to illness.

The situation warrants urgent action to curb the epidemic. Examining the gender dimensions of TB is important for overcoming barriers to effective prevention, coverage and treatment of tuberculosis.

## What do we know?

### ***Tuberculosis incidence and prevalence is higher in adult males than in adult females***

In most settings, tuberculosis incidence rates are higher for males at all ages except in childhood, when they are higher in females. Studies have reported that sex differentials in prevalence rates begin to appear between 10 and 16 years of age, and remain higher for males than females thereafter. The reasons for the higher male prevalence and incidence are

poorly understood, and need further research to identify associated risk factors.

### ***Reported incidence rates for tuberculosis may under-represent females***

Standard screening norms may cause more women than men with tuberculosis to be missed. Women appear to be less likely than men to present with symptoms of cough or sputum production, or test positive for tubercle bacilli on sputum microscopy.

Examining the gender dimensions of tuberculosis is more than ascertaining which sex has a higher prevalence rate, or a higher case fatality rate. It also includes looking at other issues such as differences in risk of exposure to infection, in health seeking behaviour and health-systems response, economic consequences, and stigma associated with being known as a tuberculosis patient.

Lower rates of notification may also be a consequence of a smaller proportion of women than men with tuberculosis visiting a health facility and/or submitting sputum specimens for testing.

### ***There are sex differences in the development and outcome of tuberculosis***

Once infected with TB, women of reproductive age are more susceptible to fall sick than men of the same age, and also to die from it. Evidence on the contribution of pregnancy to these differences is inconclusive.

### ***HIV is contributing to sex differentials in risk of tuberculosis in young people***

HIV weakens the immune system, and a person who is HIV positive and infected with TB is much more likely to develop active disease than a person similarly infected but HIV negative. Since young women are at a greater risk of HIV infection than men in the same age group, in parts of Africa where incidence of HIV is high, there are more young women notified with TB than young men (Figs 1-2).

### ***Tuberculosis in pregnancy enhances the risk of a poor pregnancy outcome***

Case-control studies from Mexico and India report that pulmonary tuberculosis in the mother increases risk of prematurity and low birth weight in neonates two-fold, and the risk of perinatal deaths between three and six-fold.

In pregnant women with a late diagnosis of pulmonary tuberculosis, obstetric morbidity is increased four-fold, according to a recent review on tuberculosis and pregnancy. The review also reported higher risk of miscarriage, eclampsia and intrapartum complications.

### ***Genital tuberculosis frequently leads to infertility in women***

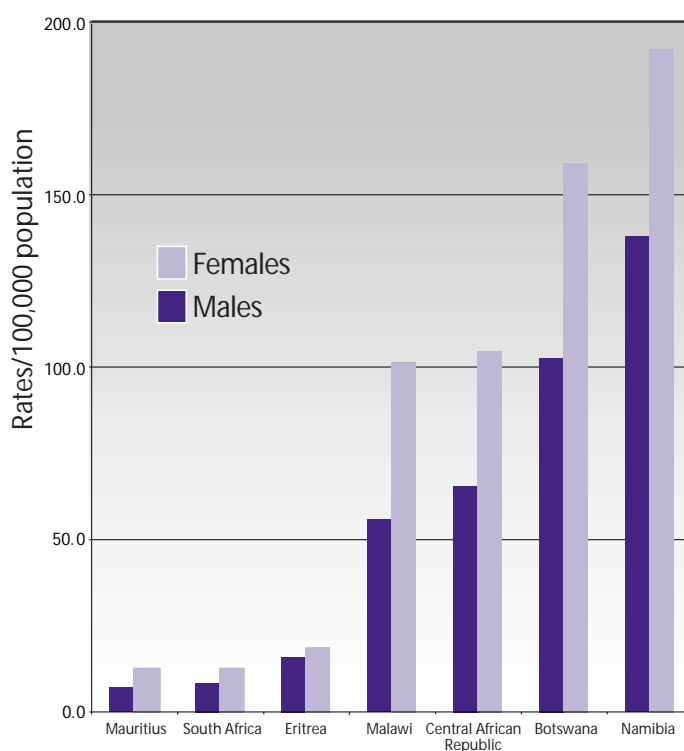
Tuberculosis of the genitourinary tract is often difficult to diagnose in both women and men. It is a relatively rare condition in men. However, one in eight women with pulmonary tuberculosis may also have genital tuberculosis, as suggested by studies from India and Turkey. Genital tuberculosis is an important cause of infertility in women in many developing countries, with far-reaching consequences to their lives and their wellbeing. In India, genital TB was the cause of tubal damage in nearly 40% of women experiencing tubal infertility.

### ***Social and economic consequences of tuberculosis varies by gender***

Because of gender differences in the division of labour and in roles and responsibilities, tuberculosis affects women and men differently. In one study, women patients reported inabil-

Figure 1: *Smear-positive notification rates in young people (15-24 yrs) in selected African countries with high incidence of HIV, 1999.*

Source: WHO Report 2001 – Global Tuberculosis Control



ity to spend time on childcare, and difficulty in carrying out household chores because of the deterioration in their physical condition. Male patients reported distress because of loss of income and inability to contribute adequately to household expenditure.

Social isolation because of stigma associated with tuberculosis affects both sexes. But the consequences may be harsher for women and girls. Women patients in a Pakistan study were at risk of divorce or marital

### Features of treatment centres registering the highest proportion of women<sup>1</sup>

- Visible and physically accessible shop-front setting
- DOTS centre integrated with a women and family-based primary health centre
- No cost barriers
- High proportion of women staff
- Ability to diagnose extrapulmonary disease
- Active late-chasing policy
- Emphasis on educating families and patients

<sup>1</sup> Source: Stebbing M. *Gender and TB: Perspectives from Nepal*. Proceedings of a Conference on Poverty, power and TB, February 23-25, 2000, Kathmandu.

break-down. In India, women with tuberculosis were concerned about reduced chances of marriage, rejection by husbands and harassment by in-laws, while male patients were concerned principally with loss of income and economic hardship.

***Despite early care-seeking, women have a longer period of delay before diagnosis***

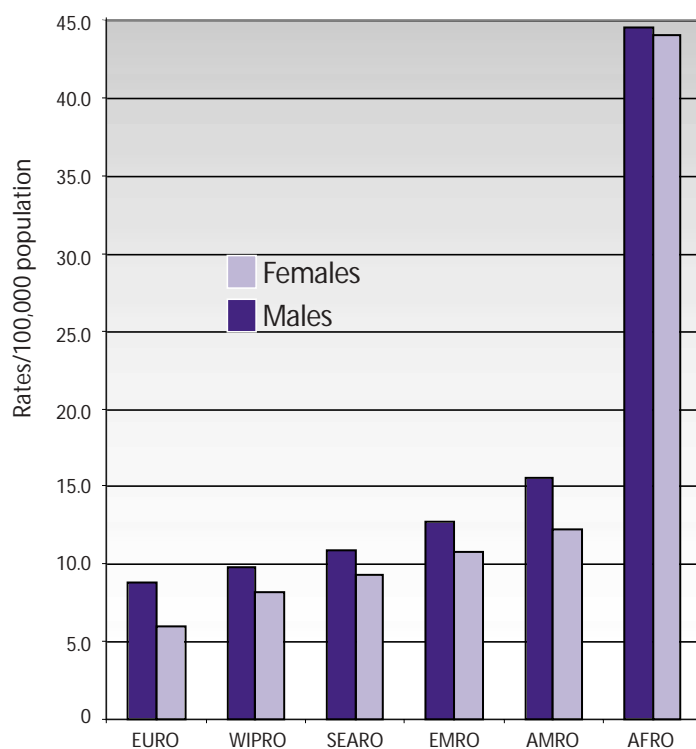
Studies to-date report either no gender differences, or a greater delay for men in the time lapse between onset of symptoms and the patient's first contact with a health care provider. However, women had a longer delay before tuberculosis was diagnosed because:

- They often sought care from a private practitioner or a less qualified professional, and waited for the treatment to take effect before going to the hospital.
- They did not go to the hospitals where TB treatment was available, because of the distances to be covered and restrictions on their physical mobility.
- Fewer women presenting with chest symptoms were referred for sputum examination by doctors.
- It took the doctors longer to diagnose women with tuberculosis than men, perhaps because they did not present with what is considered 'typical' symptoms: prolonged cough with expectoration.

It would be important to probe deeper into variations in health seeking behaviour and health-provider response not

Figure 2: Smear-positive notification rates in young people (15-24 yrs), WHO Regions, 1999

Source: WHO Report 2001 – Global Tuberculosis Control



only by gender but also by age and social class to better understand groups that face the most barriers to accessing health care.

### ***Men are less likely to complete treatment***

Studies report that while men are better able to access TB treatment from a DOTS facility, the need to earn a livelihood also acts as a barrier to completing treatment. Women, on the other hand, have greater difficulty reaching an appropriate facility, but those that do, usually complete treatment.

## **What research is needed?**

Research on gender and tuberculosis needs to be geared in the direction of

- Ascertaining the magnitude of sex and gender-disparities in tuberculosis, from contracting the disease to successful recovery and rehabilitation, starting with:
  - a) ensuring that all current data on progress of global control of tuberculosis is age and sex-disaggregated, and
  - b) re-examining age and sex-disaggregated data from past surveys and data maintained by TB programmes.
- Examining the causes underlying any sex or gender disparities, to understand the extent to which these are biological, social/cultural or operational, through comparative studies in diverse settings.
- Investigating the specific ways in which tuberculosis affects women of reproductive ages, and especially their reproductive health, including the consequences for foetal and neonatal health.

## **What are the implications for policies and for TB control programmes?**

- Suitable adaptation of the passive case-finding strategy for specific contexts is important to prevent under-notification among women and men who do not present themselves to a health facility.
- Information campaigns need to make the availability and location of TB treatment facilities better known in the community to discourage care-seeking for TB from unqualified providers. Such campaigns should make a special effort at targeting women, young people and other vulnerable social groups.
- Community-based and/or family supervision models of the DOTS strategy may be more successful in achieving treatment compliance and positive outcomes among women as well as men who may be unable to visit treatment centres on a daily basis.
- Health providers may need to be alerted to the possibility that women with pulmonary tuberculosis may not have the typical symptoms and may not test positive on microscopic examination of the sputum.
- Routine tuberculin testing of all pregnant mothers, and following up positive cases with chemo-prophylaxis should be considered in high TB incidence settings, because of the high neonatal mortality and morbidity associated with tuberculosis in pregnant women and to prevent maternal mortality and morbidity from this cause.
- The higher prevalence of extra-pulmonary tuberculosis, and especially genital TB, in women needs to be better addressed by health programmes because of their far-reaching consequences to women's lives.



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