devastating sexually transmitted infection. The phased implementation will allow further refinement of the structure and process of the screening programme over the coming months; however, successful implementation will only be achieved with a sustained commitment to joint working among stakeholders at local and national levels.

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Syndromic approach

Current status of syndromic management of sexually transmitted infections in developing countries

B Vuylsteke

The syndromic approach has been a major step forward in rationalising and improving management of STI

Diagnosis of a presumed sexually transmitted infection (STI) has traditionally been based on either clinical diagnosis, which is often inaccurate and incomplete, or laboratory diagnosis, which is complex, very expensive, and may delay treatment. As early as the 1970s, public health physicians, particularly those working in Africa, became interested in testing simple clinical tools for controlling and treating STIs.[1] This resulted in the design and promotion of ''syndromic management'' guidelines for STIs by the World Health Organization in 1991.[2] The syndromic approach does not require identification of the underlying aetiology. Instead, it is based on the identification of a syndrome—that is, a group of symptoms and easily recognised signs associated with a number of well defined aetiologies. Treatment is provided for the majority of the organisms locally responsible for the syndrome.

It rapidly became clear that the syndromic approach offered enormous advantages compared to the traditional approach, although more evidence was needed to rationalise and convince policy makers.[3] Algorithms based on a syndromic approach were evaluated in many different settings, results of which were reported in the late 1990s—for example in a supplement of *STI*.[4] In a study in South Africa, for instance, the syndromic management protocols provided adequate treatment for more than 90% of patients with genital ulcer syndrome (GUS).[5] In another study in Indonesia, the positive predictive value (PPV) of a syndromic approach for gonococcal and/or chlamydial urethritis was between 75% and 97%, resulting in a low cost per real case treated.[6] In addition, the cure rate for urethral discharge with the syndromic approach was 99%.[6] In order to decrease the number of women who would be treated unnecessarily for cervical infections, a risk assessment was incorporated into the syndromic approach to vaginal discharge. As a result, a woman with a complaint of vaginal discharge is treated systematically for vaginal infections, but only if her risk assessment is positive will she receive treatment for gonococcal and chlamydial infection as well. Using a risk score assessment in Tanzania, the overtreatment rate for cervical infections decreased from 92% to 17% in pregnant women and from 89% to 36% in non-pregnant women with vaginal discharge.[7] By the late 1990s, the syndromic approach was largely promoted and used worldwide, and not only in developing countries.

There is enough evidence now that the syndromic approach is effective and has had an impact on the STI epidemic. Dramatic declines in STI rates have been observed following control strategies based on the syndromic approach, such as in sex workers in Côte d'Ivoire, Senegal and South Africa, and in STI

Key messages

- The syndromic approach has been a major step forward in rationalising and improving management of STI
- The performance of genital ulcer syndrome (GUS) treatment flow charts depends on the aetiological patterns of GUS in different settings
- The risk score approach should not be used as an STI screening tool or diagnostic test in asymptomatic or poorly symptomatic women
- Simple and rapid point of care tests may contribute to improve STI care for women in the near future

clinics in Kenya and in Burkina Faso.[8–10] The studies in Mwanza (Tanzania) and Masaka (Uganda) demonstrated the impact of syndromic management beyond the STI clinic attendees they targeted by decreasing STI prevalences in the general population: serological syphilis by 20% and male urethritis by 50% in Mwanza, and gonorrhoea by 70% in Masaka.[11 12] The declining prevalence of bacterial infections in some of the key syndromes in parts of Africa is a testimony to the success of widespread syndromic management use.[9]

In this issue of *STI* (p 392, Wolday *et al* describe the results of a study on risk factors associated with the failure of syndromic management of STIs among women seeking treatment in a primary healthcare centre in Addis Ababa. Syndromic treatment did not result in clinical improvement in 30% of the women, and the GUS was significantly associated with treatment failure. The authors argue that the treatment failure is probably a result of the high proportion of ulcers caused by herpes simplex type 2 virus (HSV-2) in this high HIV prevalence setting. The performance of syndromic treatment flow charts depends on the aetiological patterns of the syndrome, and herpes is not addressed by the former WHO algorithms.[13] The syndromic approach became victim of its own success; because of the improved control of chancroid and syphilis in some regions it has become apparent that the GUS, particularly in the sub-Saharan countries, is more frequently caused by HSV-2 infections. The WHO is currently recommending including the treatment for HSV-2 in the management of genital ulcers, especially in settings where HSV-2 prevalence is 30% or higher.[13] Adding aciclovir to the syndromic treatment of ulcers, however, will not necessarily lead to higher cure rates.

Another area of concern is the use of the syndromic management in low STI prevalence settings, especially when the approach is used as a screening tool.[14 15] It should be stressed that the syndromic approach was developed as a diagnostic tool in symptomatic patients, it was never meant to be a screening tool. Traditionally, screening tools are used to minimise the number of (more expensive) standard diagnostic tests by identifying a group of people with a higher than average prevalence of infection. In the absence of such a test, the risk score approach should not be used as a substitute for standard diagnosis because of its poor discriminative ability. The current picture may change, however, when simple, cheap, and rapid diagnostic tests for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* are available in developing countries. The development of such tests is considered by STI control programme managers and STI specialists to be an absolute priority in STI research. Major progress has recently been made in this field. A rapid (25 minute), cheap ($US 0.85) dipstick for chlamydial infection ''Firstburst'' has been developed recently and is awaiting FDA approval. Another duplex (*N gonorrhoeae* and *C trachomatis*) test is undergoing evaluation.[16] These tests may represent an important breakthrough for STI control in symptomatic and asymptomatic women in developing countries.

In conclusion, the syndromic approach has been a major step forward in rationalising and improving management of STI, and its impact on the STI epidemic has been observed in various settings. However, syndromic algorithms have some shortcomings, and they should be periodically revised and adapted to the epidemiological patterns of STI in a given setting. Simple and rapid point of care tests might help the screening of asymptomatic and low symptomatic women and the diagnosis of STI in symptomatic women. Finally, we should not forget that many other factors play a part in the successful control of STIs, including availability of effective and affordable drugs, accessible and acceptable health services, training and supervision of healthcare workers, and behavioural interventions to prevent new infections by promoting safer sex.[17 18]

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