

## IS THERE STILL A PLACE FOR SYMPTOMATIC TREATMENT IN THE MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS IN LOW RESOURCE SETTING?

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### ABSTRACT

**Background:** More than ¾ of cases of sexually transmitted infections (STIs) annually counted are from developing countries. This is a public health affliction that has severe consequences on reproductive health: ectopic pregnancy, chronic pelvic pain, infertility, cervical cancer, ureteral stenosis, abortion, still birth, neonatal conjunctivitis, neonatal death and mental retardation. The “syndromic approach” proposed by WHO in 1991 had raised hope in controlling these infections in Sub-Saharan Africa where certain STIs are risk factors for the spread of HIV.

**Objective:** Review the syndromic treatment in some developing countries and particularly in Cameroon.

**Methods:** Books, thesis and publications on reproductive health, STIs and symptomatic treatment have been exploited.

**Results:** The authors reported essentially that: a statistically significant discrepancy exist between the symptomatic and the etiological approaches of STIs; A performance of symptomatic treatment evaluated in terms of under treatment or over treatment of STIs is associated with the risks of complications, of contamination and development of microbial resistance to drugs. Cameroon’s situation, similar to that of the other countries studied is more marked by: self-medication, street market drugs, traditional practitioners, disclosure of erroneous messages by media.

**Conclusion and Recommendations:** The symptomatic treatment approach is reserve in high risk groups and symptomatic individuals while encouraging research on reliable and cheaper diagnostic and screening tests. In Cameroon, it will be necessary to: Convince traditional practitioners to limit themselves to primary prevention; increase awareness against street market drugs and self-medication; train media communicators on Behavior Change Communication for STIs; remove from the protocol all drugs for which resistance is known; popularize the Polymerase Chain Reaction (PCR) technique for the diagnosis and screening of asymptomatic or even pauci symptomatic cases of STIs due to Chlamydia and Mycoplasma.

**Keywords:** Syndromic treatment, Sexually Transmitted Infections, Developing countries.

## INTRODUCTION

Sexually transmitted Infections (STIs) are a group of infections that are exclusively or sexually transmitted between an individual with an infection and a healthy individual [1]. With 340 million treatable cases each year (1/20<sup>th</sup> of the world's population), including 75% to 85% in developing countries, STIs remain a major public health problem worldwide and their consequences for reproductive health (ectopic pregnancy, chronic pelvic inflammatory disease, infertility, cervical cancer, urethral stenosis, abortion, stillbirth, neonatal conjunctivitis, neonatal death, mental retardation, pneumonia), society and the economy are considerable for many countries. About 20 micro-organisms are responsible for STIs, but only 10 are of importance for public health in Africa; they are: four bacteria (*Chlamydia trachomatis*, *Neisseria gonorrhoea*, *Treponema pallidum*, *Haemophilus ducreyi*), four viruses (HIV, HBV, HSV, HPV), a parasite (*Trichomonas vaginalis*) and a yeast (*Candida albicans*) [3]. The main aims of STIs control are to interrupt their transmission, development and consequences. Besides primary prevention, measures to accomplish these aims include detecting and curing disease by providing adequate diagnostic and treatment facilities as well as limiting the complications of infection by providing early and effective treatment for both symptomatic and asymptomatic patients and their contacts. Syndromic case management is one approach for the secondary prevention of STIs. Considering the economic burden of STIs treatment in developing countries, the World Health Organization (WHO) introduced the concept of "the syndromic approach" in 1991, and has made available to national policies a document developed for the control of STIs according to the syndromic approach [4]. However, several studies carried out have suggested a weakness in the implementation of STIs management using to this approach. Hence the interest of this review of the literature whose purpose is to present the current balance of the syndromic approach in the treatment of STIs in low-income countries, in sub-Saharan Africa and

particularly in Cameroon in order to make adequate recommendations on the way forward.

## METHODS

We were interested in theses, books, national policy document against STIs and articles, using as key words: causes, clinic, treatment, symptomatic, syndromic approach, management, diagnosis and treatment of STIs in developing countries particularly in sub-Saharan Africa. The search was done in PubMed, Scopus, Medline, Google Scholar, and AJOL.

## REVIEW

The literature shows that STIs are a public health problem in all developing countries. The approach of syndromic treatment that had initially been a great enthusiasm is perceived today with a lot of reserve:

In India, Choudhry *et al.*, following a study performance evaluation between the syndromic approach and the etiological approach in a tertiary care hospital in Delhi, found that 300 patients with STIs had deficiencies in syndromic algorithms for the management of STIs in terms of specificity and prevalence estimation of the various pathogens found [5]. For Subash *et al.* in New Delhi the symptom based treatment for the infecting microbe is challenging with the risk of misdiagnosis. This lack of accurate and specific diagnosis leads to predefined antimicrobial prescriptions which is not only the cause of over treatment, but contributes to acquiring antibiotic resistance. They found that the main presenting symptom in the majority of patients infected with *Trichomonas vaginalis*, *Chlamydia trachomatis* and *Neisseria gonorrhoea* is vaginal discharge which when remain untreated may result in Pelvic inflammatory disease, infertility, ectopic pregnancy and many others complications. They also mentioned the need to develop low cost, easy to use nucleic acid based diagnostic methods that can be used in poor resource settings by untrained workers. This shall not only prevent transmission of infection to their sexual partner or infants but help in reducing the rampant use of antibiotics [6].

In East China, a study conducted by Yin *et al.* on the comparison of the syndromic approach and the laboratory tests of 4510 retailers detected a low sensitivity of syndromic diagnosis of STIs by city doctors and a failure in the detection of asymptomatic patients [7].

In Kenya, a cohort study of the performance evaluation of syndromic management of STIs in Kisumu locality found a statistically significant discrepancy between syndromic and etiological approaches to STIs in 846 participants, of which only 10.4% received a correct syndromic diagnosis [8].

For Moodley in South Africa although syndromic management of STIs in highly endemic areas provides a short-term benefit to the individuals treated, it has no impact on decreasing prevalence rates. The numerous factors that contribute to this are rapid reinfection from a large pool of infected symptomatic and asymptomatic individuals as well as the non-specific nature of presenting symptoms in women with vaginal discharge syndrome are major causes. Pivotal to the success of syndromic management is the percentage of these infections in women who either go untreated or are treated after a substantial delay. This is largely attributed to the high frequency of asymptomatic or unrecognized infections. Approximately 25% of women in rural South Africa have an STI and less than 10% of these infections are appropriately treated [9]. In Ethiopia Wolday *et al.* found that the performance outcome of the syndromic STI treatment approach resulted in either under treatment or over treatment of STIs [10]. In the year 2000 alone, 9755 cases of STIs have been managed under the program “Médecins Sans Frontières”, a Belgium NGO with the syndromic treatment approach; more than 50% of the cases were misdiagnosed confirming the limit of that approach [11]. Orroth *et al.* in Tanzania found that Syndromic approach contributed to reduce the duration of symptomatic STIs, thus the HIV risk associated with such STIs [12]. In Nigeria, Salamat *et al.* mentioned an over treatment of women with syndromic approach meanwhile Obunge *et al.* found a limit in the syndromic management protocol of sexually

transmitted infections in adolescents [13,14]. In Cameroon, the National System Quality Index survey estimated that 43% of health districts in the country offer STIs management according to the syndromic model [15]. The situational analysis of STIs treatment carried out in Cameroon in 2008 found that 54% of patients benefited from STIs management according to the syndromic approach in health facilities [16]. Gueumakane *et al.* in 2009, following a study on the quality of STIs treatment in six hospitals in Yaoundé and Douala found a similar result [17]. Moreover, the current clinical manifestations of STIs that are sometimes different from those previously described, the disclosure by the media of incorrect messages on STIs, the practice of self-medication, the use of informal structures for the treatment of STIs (traditional healers, street market drugs), drug resistance and the occurrence and spread of HIV are factors that make STIs management in Cameroon complex [18, 19, 21]. The main advantage of syndromic management is that the patient receives effective treatment at the first visit for the common causes of the presenting symptom. Besides some risks factors of drug resistance proper to our environment that we described above, the major concern here is over treatment or under treatment and its known consequences: microbial resistance to Azithromycin is actually described in our milieu [22]. A recent study conducted by Njamen Nana *et al.* in Cameroon in 2015 on 636 patients with STIs found revealed that the average age was  $30.9 \pm 8$  years, with as high as 28.9% of asymptomatic patients in a context where the main bacterial germs involved were *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma hominis*. Infertility and deep dyspareunia were the most common reasons for consultation in 38.1%, indicating a high probability of upper genital tract damage in more than one-third of infected patients [23, 24]. The history of self-medication and traditional treatment found in 28.1% and 38.5% of patients, respectively, contributed to the delay in consultation and drug resistance observed [19, 22] and increasing the rate of laparoscopy for tubal

infertility and of medically assisted procreation [25].

## CONCLUSION

Syndromic management involves making clinical decisions based on a patient's symptoms and signs. Until inexpensive, simple and accurate STIs diagnostics are developed and made available for use in low-income countries, it is urgent to reserve the syndromic approach only for symptomatic patients and high risk populations, otherwise we should be confronted (if it is not already the case) in the short, medium term to an impressive number of cases of infertility (tubal alterations and sperm) requiring the use of in vitro fertilization. Moreover we recommend for the case of Cameroon to:

- ❖ Avoid syndromic treatment for paucisymptomatic cases;
- ❖ Intensify the current strategy of primary prevention by perpetuating it at all operational levels;
- ❖ Train media communicators on communication for behavioral change in STIs;
- ❖ Persuade traditional healers to limit themselves to primary prevention;
- ❖ Remove from the protocol all drugs for which resistance is known;
- ❖ To extend the PCR technique to District Hospitals for the diagnosis of Chlamydia and Mycoplasma infections;
- ❖ Organize mass campaigns for early diagnosis and treatment of Chlamydia and Mycoplasma infection in target populations (secondary schools, universities...) with urine samples using DNA Amplification Technology. This approach may seem expensive, but actually beneficial in terms of decreasing the rate of laparoscopy for tubal infertility and of medically assisted procreation.

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