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The practice of STI treatment among chemists and druggists in Pokhara, Nepal

Chemists and druggists working in "medical shops" play a significant part in the treatment of sexually transmitted infections (STIs) in resource poor countries.[1–4] In some settings, chemists and druggists are consulted for first line treatment of STI symptoms more often than hospitals and clinics designed specifically to service such clients.[1] Recent unpublished data from Pokhara, Nepal, suggest that in up to 80% of cases, treatment provided by chemists and druggists was inappropriate or incomplete.[1] We report here on the quality of STI case management among a random sample of chemists and druggists from the 75 medical shops in Pokhara Municipality Area, Nepal.

Chemists and druggists working in all Pokhara medical shops, 65% of whom had received previous training in the national STD case management guidelines,[5] based on WHO syndromic algorithms,[6] were trained and motivated to initiate a register of all STI client visits and their treatment. Registry data from January to December 1999 were reviewed. Thirty seven registered medical shops were randomly selected for visits using the simulated client method (SCM) presenting 22 urethral discharge (UD) and 15 vaginal discharge (VD) scenarios.

Of the 6374 STI cases (68% female, 32% male), 22% presented with urethral discharge, 31% with vaginal discharge, 21% with genital ulcer disease, and 26% with pelvic inflammatory disease. Seventy per cent of STI shop clients were making their first contact for care, while 14% were coming to buy STI drugs with a prescription from a private clinic and 16% from a government facility.

Based on SCM visits, only 24% of shops dispensed the correct medication and dosage for treatment of UD and VD, as specified in the national guidelines. Frequency of dispensing either an overdosage or an incomplete dosage of the correct medication was the same (both 5%). In 43% of cases, chemists and druggists offered treatment that was incompatible with national guidelines, including drugs not meant for UD or VD treatment. Finally, in 22% of cases no medication was dispensed (fig 1). While over 95% of SCM clients were made to feel welcome, given a private consultation, and were asked about their health history, risk counselling was conducted only 57% of the time, partner notification occurred in 43% of cases, and condom use was promoted in only 35% of cases.

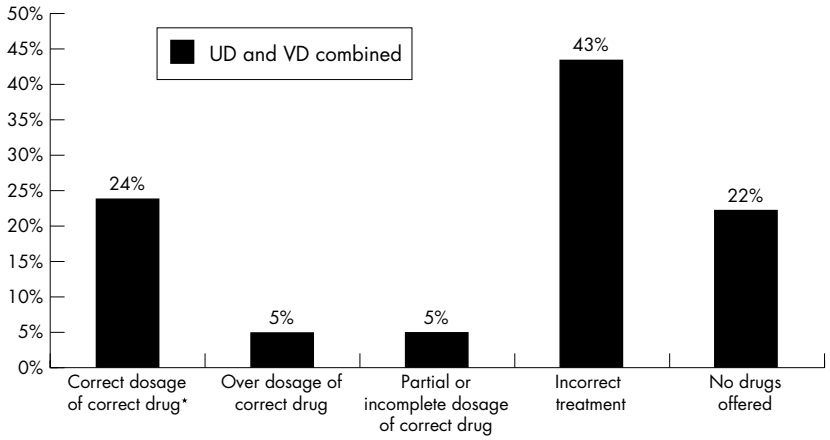

Figure 1 Treatment recommended by chemists and druggists to simulated clients presenting with urethral and vaginal discharge, at 37 medical shops in Pokhara, Nepal. (*Correct drug and dosage, as per Nepal national STD case management guidelines.[5])

Seventy per cent of clients visiting medical shops for STI treatment in Pokhara Municipality Area in 1999 were there for first line treatment—findings in agreement with a recent study conducted in Ghana, which found that over 60% of STI clients came to pharmacies without a prescription.[3] Although positive privacy and welcoming practices make medical shops a valuable outlet for STI treatment, only one quarter of chemists and druggists in Pokhara Municipality Area correctly dispensed medication for the treatment of UD or VD. While these data do not permit analysis of whether trained versus untrained providers were better at prescribing practices, it is clear that training efforts need to be expanded and intensified to improve STI control in this region.

Acknowledgements

This study received funding from the University of Heidelberg STD/HIV Project, Kathmandu, Nepal, which is funded by the European Union (EU) (B76211/97/044).

There are no conflicts of interest.

The authors would like to thank Mr Bishwa Bandhu Baudyal, coordinator for the NCDA programme in Pokhara, for his help in collecting the reports from each of the 75 medical halls, the Gandaki Zonal Branch of the Nepal Chemist and Druggists Association (NCDA), Pokhara, and the Nepal Chemist and Druggist Association, Central Office, Kathmandu, for their cooperation, and all chemists and druggists in Pokhara who participated in the training, data collection, and study.

Contributors

KPB designed the study, oversaw data collection, and edited the paper; TES wrote the paper; MHK participated in study design, oversaw data collection, and conducted statistical analysis; PC acted as clinical advisor for the study.

K P Bista, P Chaudhary
NCASC/UoH STD/HIV Project, Teku, Kathmandu, Nepal

T E Slanger, M H Khan
Department of Tropical Hygiene and Public Health, University of Heidelberg Medical Faculty, Heidelberg 69120, Germany Correspondence to: Dr Slanger; tracy.slanger@urz.uni-heidelberg.de

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Accepted for publication 7 March 2002

Hepatitis, syphilis, and HIV sentinel surveillance in Mongolia 1999–2000

Mongolia has undergone healthcare modifications because of political changes resulting from the dissolution of the former Soviet Union. Dramatic increases in unemployment, alcoholism, commercial sex, homelessness, and sexually transmitted infections (STIs) have occurred.[1] There has been rapid spread of HIV infection in neighbouring countries. Mongolia also has a high prevalence of hepatitis B.[2] Although the Mongolian ministry of

Table 1 Prevalence of hepatitis B, hepatitis C, HIV-1, and syphilis among groups

Group	No	Hepatitis B surface antigen (%)	Hepatitis C antibody (%)	HIV-1 ELISA (%)	Syphilis†
STI	374	86 (23)	36 (9.6)	3 (0.8)*	6 (1.6)
CSW	72	8 (11)	7 (9.7)	0 (0)	3 (4.2)
Traders	76	18 (23.7)	4 (5.2)	0 (0)	0 (0)
Homeless	71	16 (22.5)	15 (21.13)	0 (0)	2 (2.8)
Total	593	128 (21.6)	62 (10.5)	3 (0.5)	11 (1.9)

*Repetitively reactive to HIV-1 ELISA but negative to western blot.
†All samples were RPR and FTA-ABS reactive; 10 subjects had RPR titres of ⩽1:4.

health is eager to perform surveillance for STIs, including viral hepatitis, resources for collection, storage, and testing of specimens are meagre. We evaluated the utility of a filter paper blood collection technique for determining rates of HIV, syphilis, and viral hepatitis B and C in this resource limited setting.[3–6]

The study was approved by the institutional review boards at the University of Alabama at Birmingham and the Mongolian ministry of health. Volunteers including commercial sex workers, itinerant traders, homeless people, and attendees at the STI clinic were sampled in Ulaanbaatar, Mongolia. All subjects completed a questionnaire and provided blood via a finger stick.

Blood was collected as filter paper spots using Schleicher and Schuell (Keene, NH, USA) no 903 filter paper following the National Committee for Clinical Laboratory Standards protocol. Samples were dried, stored at room temperature for the duration of the 2 week visit to Mongolia, and then refrigerated upon arrival to the testing laboratory. For every blood spot, a ¼ inch disc containing about 5 µl of serum was punched out of the filter paper. Disc samples were eluted in 400 µl of phosphate buffered saline for samples to be tested for HBsAg and HCVAb, 200 µl of specimen diluent solution for samples to be tested for HIV, or 500 µl of 0.9% saline solution for rapid plasmin reagin (RPR) and FTA-ABS tests.

A total of 593 volunteers were enrolled. The prevalence of infection using the filter paper technique was 1.9% for syphilis, 10.5% for hepatitis C, and 21.6% for chronic hepatitis B. The prevalence of hepatitis C was higher among homeless people compared to other risk groups (21.13% *v* 5.2–9.7%) (table 1). For 128 volunteers with chronic hepatitis B, 86 of them (67.2%) occurred in STI clinics attendees. Eleven individuals had reactive tests for syphilis. Three individuals had repetitively reactive ELISAs for HIV, however, none was confirmed by western blot. A total of 232 volunteers (39.1%) reported use of condoms routinely, 55/593 (9.27%) had a history of blood transfusion, and 9/593 (1.5%) reported use of injecting drugs. Neither condom use, number of sexual partners, nor a history of blood transfusion were predictors of hepatitis B infection. No correlations were found between the prevalence of hepatitis C virus infection and the use of drugs or history of blood transfusions.

We found the filter paper technique for blood collection to be a reliable and useful method for serological studies in resource poor areas where blood collection and/or specimen transport may be difficult. Specimens were easily collected, stored, and transported before testing. Rates of viral hepatitis were high but rates of syphilis and HIV unexpectedly low. Future prevalence testing using this method will be able to determine trends of these communicable diseases in Mongolia.

Acknowledgements

This project was funded through the World AIDS Foundation (WAF No 175 98–054). This work was presented in part at the 40th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC Meeting) in Toronto, Ontario, September 2000.

Contributors

IT helped design the project, organised and participated in specimen collection, performed data entry and analysis, and drafted the manuscript; MA organised and facilitated the study in Mongolia and reviewed the manuscript; SV helped design the project, reviewed data analysis and manuscript preparation; JWG processed laboratory specimens for HIV testing and mentored IT in same, reviewed manuscript; EHH processed laboratory specimens for syphilis testing and mentored IT in same, reviewed manuscript; JS helped design project, was the principal mentor for IT for all aspects of the project, and assisted in writing the manuscript.

I Tellez*
Division of Infectious Diseases, Department of Medicine, University of Alabama at Birmingham, Birmingham, AL, USA

M Altankhuu
The Public Health Institute, Ulanbataar, Mongolia

S Vermund
Division of Geographical Medicine, Department of Medicine, University of Alabama at Birmingham, Birmingham, AL, USA

J W Gnann, E H Hook, J Schwebke
Division of Infectious Diseases, Department of Medicine, University of Alabama at Birmingham, Birmingham, AL, USA

Correspondence to: Dr Jane Schwebke, University of Alabama at Birmingham, 703 19th St South, Zeigler Research Building #239, Birmingham, AL 35294-0007, USA; schwebke@uab.edu

*Current address: Hospital Angeles Lomas, Vialidad de la Barranca s/n, Consultorio # 430, Col Valle de las Palmas, CP 52763 Huixquilucan, Edo de Mexico

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Accepted for publication 7 March 2002

Congenital syphilis—missed opportunities for prenatal intervention

The changes in political, economic, and social life in the eastern European countries—that is, greater group mobility, substanial rise in travel activity, changes of the sexual behaviour are all related to the increased syphilis morbidity.[1 2] There has been a sevenfold increase in the syphilis morbidity in Bulgaria in 1999 compared with 1990—that is, 2628 *v* 378 diagnosed cases respectively,[3] in 2000 there were 1605 cases. An increased number of syphilis patients among adults, and especially among pregnant women, reflected the growing incidence of congenital syphilis. The incidence of congenital syphilis in Bulgaria increased from one case in 1990 to 31 in 2000. This is observed as one of the most alarming trends in morbidity.

We report four infants with congenital syphilis—a 20 day old male infant, two male newborns, and a 2 month old female. The children were in quite a bad condition. They presented with disseminated maculous (case 4), erythemosquamous and haemorrhagic (case 1), bullous and papulosquamous lesions, and prematurity (cases 2 and 3), rhinitis, jaundice, oedema of the lids and abdomen (case 1, 2, and 3), and hepatosplenomegaly. Case 2 had asphyxia perinatalis, bradypnoea, bradycardia, atelectases pulmonum, hypothermia, respiratory acidosis with hypoxaemia, and neurological symptoms. Osteochondritis of the long bones on *x* ray was found in cases 1, 2, and 3. Patient 4 had pseudoparalysis Parrot (the roentgenogram of the upper right extremity showed typical changes in the distal metaphysis of the humerus and the proximal metaphysis of the radius). Severe anaemia, leucocytosis, thrombocytopenia, elevated erythrocyte sedimentation rate, hypoproteinaemia, hypoalbuminaemia, hyperbilirubinaemia, elevated ASAT, ALAT, and LDH were noted in cases 1, 2, 3. The TFS of patient 1 revealed features of vasculitis. The serological blood tests (VDRL, TPHA, IgM-FTA ABS, IgG-FTA ABS) were positive, but CSF tests were negative. The children were treated with penicillin successfully. The mothers of the children had positive syphilis serology; they have not been treated for syphilis.

Congenital syphilis is a serious disease, whose clinical spectrum ranges from asymptomatic infection to fulminate sepsis or death.[4] But many cases could be prevented with early and adequate prenatal care. Pregnant mothers have to be examined routinely twice during pregnancy in the first and early third trimester as well as immediately after delivery (umbilical blood sample). Unfortunately, these rules are often not followed. The reduced or absent serological screening in pregnant mothers (as in our cases) is common. The mothers of cases 1 and 3 have not been tested at delivery. A general Lues serodiagnostic test is recommended in all newborns before they leave the obstetric departments.

Some authors found that the longest delay was the time at the laboratory[5] as in case 1. (The mother was negative in the first trimester of pregnancy, became positive in the late third trimester, but the results came too late—after delivery.) Improved laboratory services will solve this problem.

Patients have often been treated by non-venereologists without contact tracing, like the father of case 1, and his diagnosis and therapy were not adequate. With regard to confidentiality patients often receive non-professional treatment or undergo self treatment.

Unfortunately, the difficulty in dealing with patients having a poor educational background and insufficient sexual knowledge results in the impossibility to find all the sources of infection. The parents of patient 2 did not seek medical help, although the father had penis lesion. The mother did not visit a doctor after she was pregnant. Even her labour was at home, as it was in the mother of case 4.

Another big problem is prostitution, which is not legal and cannot be controlled in our country.[6] The mothers of patients 3 and 4 were prostitutes, who did not seek medical assistance at all.

More than half of our patients are unable to indicate the name or address of the contacts (the father of case 1 and the mothers of cases 2, 3, 4), thus demonstrating the high frequency of occasional sexual contacts and the lack of protective measures.

The government health system has existed in Bulgaria for more than 50 years but social and economic changes require a new insurance system and new approaches concerning STDs. The system for notification of STD patients should be improved in order to ensure a higher confidentiality. The reported cases also emphasise the necessity of cooperation between dermatologists, obstetricians, neonatologists, and paediatricians.

Krasimira Chudomirova
Clinic of Dermatology and Venereology, Higher Medical Institute-Plovdiv, Bulgaria

Elena Mihajlova, Ivan Ivanov
Clinic of Pediatrics

Stefan Lasarov, Penka Stefanova
Clinic of Pediatric Surgery

Correspondence to: Krasimira Chudomirova, MD, PhD, Clinic of Dermatology and Venereology, 1, Gen Stoletov Str, 4002 Plovdiv, Bulgaria; ivan@rakursy.com

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Accepted for publication 7 March 2002

Condom access does not ensure condom use: you've got to be putting me on

Approximately 15 million incident cases of sexually transmitted infections (STIs) occur in the United States each year.[1] These figures are troubling given the availability of primary prevention measures that sexually active people can use to avoid unprotected intercourse, including latex condoms.[2] Although considerable attention has focused on making condoms widely available, surprisingly little research[3 4] has examined whether condom availability is sufficient to ensure condom use.

We recruited a convenience sample of 98 male students through advertisements posted on two Georgia university campuses to evaluate sexual risk taking behaviour. Men were required to be aged 18–29 years, full time students, and to have used condoms for ⩾5 episodes of vaginal intercourse. After providing written informed consent, eligible men participated in a standardised interview about their experiences with condoms. The study was approved by the institutional review board of Emory University.

The 98 respondents averaged 22 years of age (SD 3). Sixty four (65%) were white, 27 (28%) were African-American, five (5%) were Asian American, and two (2%) were of mixed race. Men reported a mean of 18 lifetime sex partners (median 8 partners, range 1–150); most (96%) reported having vaginal intercourse during the previous year. Eighty five men (87%) used condoms because of concern about acquiring STIs; of these, most men were also concerned about pregnancy.

However, 73 men (74%) reported having vaginal sex without a condom when they "felt one should have been used" to protect against pregnancy and/or infection (median lifetime number of times without condom 8; range 1–450). Among men acknowledging unsafe sex, 42 (58%) admitted ever having unprotected intercourse despite ready access to condoms "within the same room" (median 5 times; range 1–300). Overall, condoms, although readily accessible, were not used in more than one third (37%) of lifetime acts of intercourse where risk of pregnancy or infection was perceived (832 of 2254 acts). Reasons for men's most recent failure to use condoms, despite accessibility, included unwillingness to interrupt foreplay (48%), fear of loss of sensation or erection (17%), and inebriation (17%).

Among all 98 participants, 58 men (59%) also reported occasions in which they intended to use a condom, only to find that they did not have a condom with them. At the most recent occasion when condoms were not available, 34 men (58%) chose to have unprotected intercourse. The remaining 24 men (42%) elected to abstain from intercourse and instead participated in non-penetrative sexual activities posing less risk for STI acquisition, or waited until a condom could be obtained.

Despite the small size and self selected nature of our population, these findings point to formidable barriers to "safer sex," at least in this heterosexual setting. Condom availability did not ensure condom use, even when condoms were needed. Similarly, the lack of availability of condoms did not deter most men from having intercourse. Avoiding sexual intercourse with an infected partner is the most effective way to prevent STIs.[2] However, for sexually active people, condoms can only reduce the risk of infection when they are both readily available and actually put on.[5 6]

Acknowledgement

Support for this work was provided in part with funds from the Society of the Scientific Study of Sexuality.

IRB approval: obtained from Emory University, October, 1993.

Conflict of interest: Neither author has a conflict of interest regarding publication of this work due to financial involvements or specific affiliations. All financial and material support for this research and work are clearly identified in the manuscript.

Contributors

Both authors have made substantial contributions to the intellectual content of the paper. LW was responsible for the conception and design of the study, locating funding for the study, acquisition of study data, data analysis and interpretation, and drafting and revision of the research letter; MS was involved with the conception and design of the analysis and interpretation and drafting and revision of the research letter.

L Warner
Centers for Disease Control and Prevention, Atlanta, GA, USA

M J Steiner
Family Health International, PO Box 13950, Research Triangle Park, NC 27709, USA

Correspondence to: Lee Warner, Centers for Disease Control and Prevention, Division of HIV/AIDS Prevention, Prevention Services Research Branch, 1600 Clifton Road NE, Mailstop E-46, Atlanta, GA 30333, USA; dlw7@cdc.gov

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Accepted for publication 7 March 2002

Resolution of the recent performance problem of Abbott LCx *Chlamydia trachomatis* assay. Issues of repeat testing for confirmation of chlamydial infection

In February 2001, Abbott Laboratories issued a device correction notice to users of their LCx *Chlamydia trachomatis* assay suggesting that initially reactive ligase chain reaction (LCR) tests should be repeated on the same sample to validate the test result. A recent alert (December 2001) from the Medical Devices Agency (MDA, DA2001(09)) indicates that the device correction is still in force and points out the resource implications where retesting is required. We offer some data on LCR performance characteristics during this period and before.

Table 1 Repeat LCR testing and PCR testing of initially positive LCR urines during the Wirral Chlamydia Pilot (Sept 1999 to Oct 2000, baseline) and for 3 month periods since the issue of the device correction (February 2001)

	No of urines	PCR+	PCR+/–	PCR–	PCR (a)	PCR (b)
Initial LCR positive (Sep 99–Oct 00)	960					
Repeat LCR:						
Positive	883 (92%)	*****	Not done		****	
Equivocal (0.5–0.99)	12 (1.3%)	6		6		
Negative	65 (6.8%)	13		50		2
Initial LCR positive (Mar–May 01)	134					
Repeat LCR:						
Positive	74 (55%)	70	1	3		
Equivocal (0.5–0.99)	18	5		15		
Negative	42 (31%)	6		36		
Initial LCR positive (Jun–Aug 01)	121					
Repeat LCR:						
Positive	95 (79%)	90	3	2		
Equivocal (0.5–0.99)	2 (1.7%)			2		
Negative	24 (19.8%)	5		19		
Initial LCR positive (Sep–Nov 01)	90					
Repeat LCR:						
Positive	87 (96.6%)	82	3	1	1	
Equivocal (0.5–0.99)	1 (1.1%)	1				
Negative	2 (2.2%)			2		

(a) Inhibitory, (b) insufficient.

The Department of Health pilot study on "Opportunistic screening for genital chlamydial infection in Portsmouth and Wirral" ran for a year up to October 2000. During that study, the standard adopted for reporting chlamydial infection included a repeat LCR test on all first catch urine samples that were initially LCR positive. Samples giving discrepant LCR results were further tested by Roche Cobas (PCR) polymerase chain reaction. Chlamydia LCR urine screening, with repeat LCR/PCR testing of positives, has continued in the Wirral pilot area and is also being used in other research projects locally.

Following the original device correction, we continued to carry out a repeat LCR but additionally included a PCR test on all initially positive LCR urine samples. Analysis of our data (table 1) suggests that compared to the baseline (satisfactory) performance during the Wirral pilot there was indeed a noticeable LCR reproducibility problem when the device correction notice was issued. Since then, however, the LCR performance has improved gradually to be at least as good as in the pilot period.

The MDA alert properly deals with kit performance in generating *a valid test result*. However, this incident also prompted us to consider the wider issues of repeat testing for confirmation of *chlamydial diagnosis*.

We have recently also examined the reproducibility of our Roche Cobas chlamydia PCR results and are concerned to have found that of 282 initially PCR positive urine samples only 237 gave repeat PCR positive results.

We sense that there may be a mistaken view adopted by some clinicians that all nucleic acid amplification tests (NAAT) are infallible for sensitivity and specificity. It is important that patients should be made aware (as we did during the screening pilot) that no test is 100% accurate. Problems of reproducibility have been reported for both LCR[1] and PCR.[2] We recognise the dilemma in repeat testing of samples that give positive reactions in chlamydia NAATs; on the one hand, a low organism load in the specimen makes repeat positivity a matter of statistical chance of retesting a portion with detectable numbers—so cases will be missed. On the other hand, repeat confirmation ensures a more robust diagnosis is made which is so important in the light of the major implications of a chlamydia diagnosis for those who consider themselves well but decide to take a screening test. We would welcome debate on the need for retesting or independent confirmation of positive chlamydia NAATs and support the need for continuous monitoring of all tests to ensure their consistent optimal performance.

H Mallinson, J Hopwood, K Mutton
PHLS Liverpool, University Hospital at Aintree, Lower Lane, Liverpool L9 7AL, UK

Correspondence to: Dr Mallinson; hmallinson@nw.phls.nhs.uk

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Accepted for publication 7 March 2002

NOTICES

International Herpes Alliance and International Herpes Management Forum

The International Herpes Alliance has introduced a website (www.herpesalliance.org) from which can be downloaded patient information leaflets. Its sister organisation the International Herpes Management Forum (website: www.IHMF.org) has launched new guidelines on the management of herpesvirus infections in pregnancy at the 9th International Congress on Infectious Disease (ICID) in Buenos Aires.

Pan-American Health Organization, regional office of the World Health Organization

A catalogue of publications is available online (www.paho.org). The monthly journal of PAHO, the Pan American Journal of Public Health, is also available (subscriptions: pubsvc@tsp.sheridan.com).

10th International Symposium on Human Chlamydial Infection

16–21 June 2002, in Antalya, Turkey

The scientific programme will encompass the breadth of chlamydial research from clinical and epidemiological studies to molecular and cell biology of all species of *Chlamydia*. Further details: Professor A Demir Serter, Department of Clinical Microbiology and Infectious Diseases, Ege University, Faculty of Medicine, 35100 Bornova, Izmir, Turkey (fax: 90 232 343 71 30; email: ISHCIX@itsa.ucsf.edu).

10th International Congress on Behçet's Disease

27–29 June 2002, Berlin

Further details: Professor Ch Zouboulis (email: zoubbere@zedat.fu-berlin.de).

20th World Congress of Dermatology

1–5 July 2002, Paris

Further details: P Fournier, Colloquium, 12 rue de la Croix St Faubin, 75011 Paris, france (tel: +33 1 44 64 15 15; fax: +33 1 44 64 15 16; email: p.fournier@colloquium.fr; website: www.derm-wcd-2002.com).

18th Congress on Sexually Transmitted Infections IUSTI-Europe 2002

12–14 September 2002, Vienna, Hofburg Congress Center,

Chair of the Congress, Director of the European Branch of IUSTI: Angelika Stary, MD (Austria)

Further details: Angelika Stary, c/o Administrative and Scientific Secretariat, Vienna Academy of Postgraduate Medical Education and Research, Alser Strasse 4, A-1090 Vienna, Austria (tel: (+43 1) 405 13 83 13; fax: (+43 1) 407 82 74; email: iusti 2002@medacad.org; website: www.iusti-europe-2002.org).