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## LETTERS

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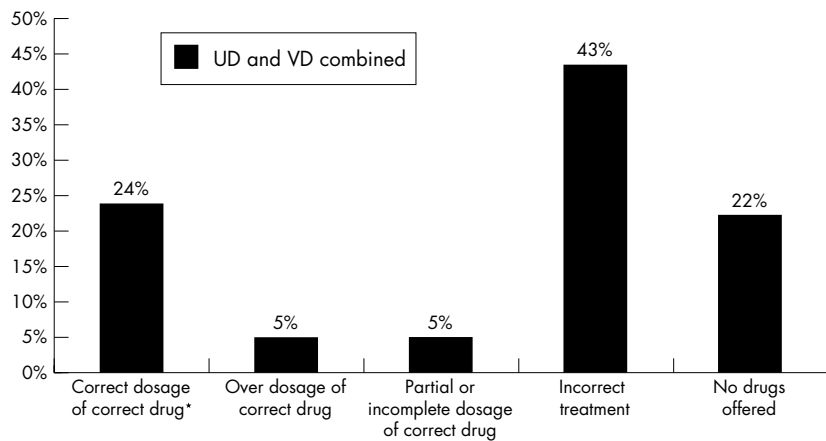
### The practice of STI treatment among chemists and druggists in Pokhara, Nepal

Chemists and druggists working in "medical shops" play a significant part in the treatment of sexually transmitted infections (STIs) in resource poor countries.<sup>1–4</sup> 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.<sup>1</sup> Recent unpublished data from Pokhara, Nepal, suggest that in up to 80% of cases, treatment provided by chemists and druggists was inappropriate or incomplete.<sup>1</sup> 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,<sup>5</sup> based on WHO syndromic algorithms,<sup>6</sup> 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



**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.)

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.

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.<sup>3</sup> 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.

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### 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](mailto:tracy.slanger@urz.uni-heidelberg.de)

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### 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.<sup>1</sup> There has been rapid spread of HIV infection in neighbouring countries. Mongolia also has a high prevalence of hepatitis B.<sup>2</sup> 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  $\leq 1:4$ .

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.<sup>3-6</sup>

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 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.

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### 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, Ulanbaatar, 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 Schwabke

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

Correspondence to: Dr Jane Schwabke, University of Alabama at Birmingham, 703 19th St South, Zeigler Research Building #239, Birmingham, AL 35294-0007, USA; schwabke@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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## 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, substantial rise in travel activity, changes of the sexual behaviour are all related to the increased syphilis morbidity.<sup>1,2</sup> 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,<sup>3</sup> 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 fulminant sepsis or death.<sup>4</sup> 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.