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. 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. Recent unpublished data from Pokhara, Nepal, suggest that in up to 80% of cases, treatment provided by chemists and druggists was inappropriate or incomplete. 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, 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 overdose 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).

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Conductors

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.

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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. There has been rapid spread of HIV infection in neighbouring countries. Mongolia also has a high prevalence of hepatitis B. Although the Mongolian ministry of

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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.1

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 samples were 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 1/4 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 4 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 0% 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 (21.1% vs. 5.2–9.7%) (table 1). For 128 volunteers with chronic hepatitis B, 86 of them (67.2%) occurred in STI clinic 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 (9.2%) had a history of blood transfusion, and 9/593 (1.5%) reported use of injected 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.

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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 the manuscript and preprinted it; MJ helped design the manuscript, reviewed the manuscript; DH helped design the project, and was the principal mentor for IT for all aspects of the project, and assisted in writing the manuscript.

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Con genital 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.1 The incidence of syphilis morbidity in Bulgaria in 1999 compared with 1990—that is, 2628 vs 378 diagnosed cases respectively—1 in 2000 there were 1605 cases. An increased number of syphilis patients among young men and the growing number of 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 the whole country.

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 rash and skin lesions (case 4), and thrombocytopenia and haemorrhagic syndrome (case 1). At birth, all infants were negative for syphilis antibody. Case 1 had asphyxia perinatalis, bradypnoea, bradyadria, atelectases pulmonum, hypothermia, respiratory acidosis with hypoxemia, and neurological symptoms. Osteochondritis of the long bones on x ray was found in cases 1, 2, and 3. Patient 4 had pseudopolyarthitis Parrot (the roentenogram of the upper right extremity showed typical changes in the distal metaphysis of the humerus in proximal metaphysis of the radius). Severe anaemia, leucocytosis, thrombocytopenia, elevated erythrocyte sedimentation rate, hypoproteinemia, hypalbuminemia, hyperbilirubinemia, 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, 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 preventable disease, whose clinical spectrum ranges from asymptomatic infection to fulminate sepsis or death.2 But many cases could be prevented with early and adequate prenatal care. Pregnant mothers have to be examined repeatedly 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 with the time at the laboratory 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-venerologists 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 penile 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. The mothers of patients 1 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 (in 6 cases 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.

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Contributors
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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. These figures are troubling evidence of primary prevention measures that sexually active people can use to avoid unprotected intercourse, including latex condoms. Although considerable attention has focused on making condoms widely available, surprisingly little research has examined whether condom availability is sufficient to ensure condom use. We recruited a convenience sample of 98 male students through advertisements posted in 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 ≥3 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 14 partners, range 1–190); 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; 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 (median 23% of acts). Reasons for most men’s recent failure to use condoms, despite accessibility, included unwillingness to interrupt foreplay (48%), fear of loss of sensation or erection (17%), and ineffectiveness (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 condom use, 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. However, for sexually active people, condoms can only reduce the risk of infection when they are both readily available and actually put on.
A valid test result gradually to be at least as good as in the pilot however, the LCR performance has improved the Wirral pilot there was indeed a noticeable data (table 1) suggests that compared to the continued to carry out a repeat LCR but addi-
tions to other research projects locally. Following the original device correction, we
continued to carry out a repeat LCR but addi-
tionally 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 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 and PCR.

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 implica-
tions 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 confir-
tation of positive chlamydia NAATs and support the need for continuous monitoring of all tests to ensure their consistent optimal performance.

| 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) |
|-----------------------------------------------|
| **Initial LCR positive (Sep–Nov 01)** | **PCR+** | **PCR+/-** | **PCR-** | **PCR (a)** |
| **Repeat LCR** | **Positive** | **Equivalent** | **(0.5–0.99)** | **Not done** | **Negative** |
| **Positive** | 960 | 883 (92%) | 12 (1.3%) | 6 | 6 | 65 (6.8%) | 13 | 50 | 2 |
| **Equivalent** | 74 (55%) | 70 | 1 | 3 |
| **Negative** | 42 (31%) | 5 | 15 |
| **Initial LCR positive (Mar–May 01)** | 134 | 95 (79%) | 90 | 3 | 2 |
| **Repeat LCR** | **Positive** | **Equivalent** | **(0.5–0.99)** | **Not done** | **Negative** |
| **Positive** | 121 | 2 (1.7%) | 2 | 2 |
| **Equivalent** | 24 (19.8%) | 5 | 19 |
| **Negative** | 87 (96.6%) | 82 | 3 | 1 | 1 |
| **Positive** | 883 (92%) | 66 | 6 | 6 |
| **Equivalent** | 71 | 7 | 3 |
| **Negative** | 42 (31%) | 5 | 15 |

(a) Inhibitory, (b) insufficient.

The Department of Health pilot study on “Opportunistic screening for genital chlamy-
dial 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 discrep-
ant 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. The Wirral pilot LCR/PCR testing of positives, has continued in the Wirral pilot area and is also being used in other research projects locally.

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