EDITORIAL

A second major HIV outbreak in Larkana, Pakistan

Arshad Altaf,[1] Safdar Pasha,[2] Sten H. Vermund,[3] Sharaf Ali Shah[4]

The first major outbreak of human immunodeficiency virus (HIV) in Pakistan occurred in 2003 among persons who inject drugs (PWID) in Larkana. At that time, a survey of PWID revealed that 17 out of 175 (9.7%) were confirmed HIV positive, compared to historic data suggesting <0.5% prevalence among PWID.[1] The city has now encountered another true HIV outbreak (i.e., a substantial excess of cases over the expected), this time among patients receiving renal dialysis in a dialysis unit of Chandka Medical College. A newspaper report (http://www.dawn.com/news/1289582) from 12 October 2016 reported 50 HIV cases. The National AIDS Control Programme (NACP) subsequently conducted its own investigation. From 27 September to 8 October 2016, dialysis patients were screened using HIV rapid test kits (ImuMedOne Step Diagnostic Test). The name of this kit was not in the WHO approved list available at NACP. Fifty six of 205 (27.3%) tested HIV seropositive. Twenty of these were selected at random and sent to the Referral Laboratory of Sindh AIDS Control Programme in Karachi where 19 out of 20 (95%) were confirmed HIV positive on Western Blot Testing.[2]

The recognized index case in this outbreak was a patient who went to a local laboratory for HIV testing. He informed the Physician-in-Charge of the Dialysis Unit of his seropositivity who then initiated HIV testing of all other dialysis patients. The NACP report indicates that there were 11 dialysis machines, one medical specialist or internist who is not a trained nephrologist and one technician per shift managing the dialysis unit. Once the physician goes away at the end of the day and patients come for dialysis in the evening or at night, the on duty technician manages the patients as well as the machines in the absence of a supervising physician. The report mentions that infection control practices were few and no machines were dedicated to patients with hepatitis B virus, hepatitis C virus or HIV infections. Interviewed patients indicated that they had purchased blood from unregulated laboratories and blood banks of the area.[2]

Larkana is located in northwestern Sindh near the Indus river and the 4500 year old Mohenjo-daro ruins of the Indus Valley Civilization. The estimated 2010 population of the largely rural Larkana district was 1.44 million with ~540,000 in the city proper.[3] Results of the 2011 national surveillance Round IV suggested an 18.6% HIV prevalence among PWID, 15% in hijra sex workers, 3.1% in male sex workers, and 1.9% in female sex workers.[4] These are astounding infection burdens for a small city in a rural district with a female brothel and small motels housing male and female sex workers.[5] Larkana is well-known in modern Pakistani history as the home district of two former Prime Ministers, Zulfikar Ali Bhutto (executed) and Benazir Bhutto (assassinated). High-profile government officials are often posted to Larkana and the town attracts disproportionate media attention. Larkana hosts the Shaheed Mohtarma Benazir Bhutto Medical University and the teaching hospital of its Chandka Medical College. Nevertheless, no trained infectious disease or HIV physicians practice in Larkana and its blood banking and hospital infection control systems are suboptimal.

Circumstances for HIV/AIDS control and prevention are similarly challenged by limited health workforce, systems constraints, and unassertive policies that result in ongoing HIV transmission, including nosocomial risk. The Sindh AIDS Control Programme (SACP) spearheads service delivery projects focused on key population at risk for HIV. Projects are constrained severely by a lack of reliable funding. The SACP HIV Reference Laboratory is in Karachi, 460 kilometres from Larkana, and has no pathologist and an antiretroviral therapy (ART) centre managed by one medical officer.

Larkana's circumstances are emblematic of challenges faced in Sindh Province and throughout Pakistan. ART-based care, including tuberculosis chemotherapy when indicated, is essential for the well-being of the HIV-infected patients. This requires regular HIV testing, patient education, linkage to care, retention in care, initiation of early ART, and high adherence to ART over one's lifetime. If this continuum of care can be made efficient and effective, one not only turns a lethal infectious disease into a chronic, manageable disease (like

[1]Service Delivery and Safety, World Health Organization, Geneva 27, Switzerland, [2]National AIDS Control Programme, Ministry of National Health Services Regulation and Coordination, Islamabad, Pakistan, [3]Vanderbilt Institute for Global Health and Department of Pediatrics, Vanderbilt University School of Medicine, Nashville TN 37203 USA, [4]BRIDGE Consultants Foundation, Karachi, Pakistan.

Correspondence: Syed Sharaf Ali Shah. Email: drsharafshsh@yahoo.com

hypertension or diabetes), and also reduces the patients' infectiousness to others.

Major health care facilities need effective infection control committees, an adequate budget for infection control measures, and a system of infection prevention and control, including proper waste management. For example, in dialysis units, it is standard practice to: (1) routinely test dialysis patients for hepatitis and HIV infections; (2) employ rigorous infection control practices, including safe blood supplies and never reusing needles, syringes, and tubing; and (3) dedicate separate machines for infected patients. The guidelines for setting these systems are one click away on easy-to-access websites of the U.S. Centers for Disease Control and Prevention,[6] World Health Organization,[7] The Association for Professionals in Infection Control and Epidemiology,[8] The International Federation of Infection Control,[9] and many others. Bold and honest confrontation of these challenges[10] by government and medical workers alike can help reduce morbidity, health care costs, and deaths by prevention of nosocomial infectious disease transmission.

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