



Evaluation of the workshops on Infection Control

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In May 23-29 2016, my colleague Dr. Gerard Parlevliet and myself, Prof. Dr. Willem van Leeuwen, were invited by the Tehran University of Medical Sciences to share information about microbiology and prevention of infections by performing workshops. In these workshops mutual information was successfully exchanged and discussed. One of the most relevant subjects of the discussion concerned the role of microbiology in patient treatment and in prevention of hospital-acquired infections. During those discussions, it became clear that there seems to be a lack of communication between the diagnostic microbiological laboratory and the physicians.

In consultation with Prof M.M. Feizabadi we decided to write this letter to inform you about our opinion of the role of microbiology in Iran, based on our Dutch experiences. We hope that in this way the discussion with respect to the microbiologist in the clinic, will start.

In the Netherlands, the medical microbiologist is the fundamental basis for microbiological diagnostics and is the consultant for adequate patient management in good collaboration with the treating physician. The fellow medical microbiologist in the Netherlands has

a medical background, identical to all medical specialism. After 5 years, this young physician specializes him/herself in infectious diseases and becomes a medical microbiologist.

We have noticed that the majority of microbiologists in Iran do not have a clinical background and those who are MD/PhD are deprived of being employed at the hospitals in particular those affiliated to the universities. This has created tremendous problems concerning diagnosis and treatment of microbial pathogens. A possible strategy for Iran to circumvent this issue, is a triumvirate between the laboratory microbiologist, a physician with interest in infectious diseases, the so-called infectious diseases specialist and the treating physician of the patient. In this way the laboratory microbiologist can communicate with the ID specialist about patient treatment based on the diagnostic lab results. To improve the situation in long term it is advised that microbiology departments be settled in part at the hospital laboratories perform its professions.

The microbiological diagnostic laboratory has a crucial role, not only in the identification of etiological agents of infectious diseases, but also in the treatment of infectious diseases, and in the registration, the so-called surveillance of infections in the hospital. If the communication is good and the microbiological diagnostic laboratory has adequate facilities (rapid and robust diagnostic tests), the physicians will send the clinical samples (from patients with infectious diseases) to the laboratory in a very frequent way. Good quality will result in confidence in the clinic.

Rapid diagnostics is of great importance. The fast-

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er a result can be produced, the sooner the directed small-spectrum antibiotic therapy can be implemented for optimal patient management. It is known from the literature that this will decrease mortality and morbidity, it will reduce the hospital stay of a patient (including stay at the ICU) and therefore it will result in a significant reduction of healthcare-associated costs. The laboratory results form also the base for the infection control department, as these data is essential for surveillance. Surveillance will give insight in (an elevation of) the average number of infections in a ward and in the possible transmission of certain (highly resistant) microorganisms among patients and healthcare workers in a hospital ward. With this information, an infection prevention team can inter-

vene. Interventions can be education of personnel, improvement of (hand) hygiene, improvement of procedures such as cleaning, disinfection and sterilization and influence on construction of new hospital buildings (e.g. isolation rooms, operating rooms, air-flow systems, etc). Finally, audits can be organized to improve hygiene on a hospital ward. In collaboration with a physician and a microbiologist different strategies can be implemented to prevent transmission of pathogenic microorganisms.

We hope that these workshops will be a first step to define the role of the microbiologist in the combat of infectious diseases and the reduction of highly resistant microorganisms.