Ebola outbreak heightens infection control awareness

By Prof. Lakshman Samaranayake

Twenty-two years ago, a seminal report from the Institute of Medicine (IOM) in the U.S., titled “Emerging Infections: Microbial Threats to Health in the United States,” warned of the dangers of newly emerging and re-emerging diseases. The concept of “emerging infectious diseases,” introduced then by the IOM, is now well entrenched, and to our chagrin we have witnessed many such diseases over the past two decades. These include variant Creutzfeldt-Jakob disease, bovine spongiform encephalopathy, severe acute respiratory syndrome, Middle East respiratory syndrome and, above all, the pandemic of tuberculosis. The re-emerging diseases caused by meticillin-resistant Staphylococcus aureus, and multidrug-resistant and extensively drug-resistant tuberculosis is not new. Indeed, ancient Greek, Roman and Persian writers documented the emergence of many new epidemics. In more recent times, the scientist Robert Boyle presciently observed in 1865 that “there are ever new forms of disease appearing among them the emergent variety of exotic and hurtful.” Arguably, though, the most noteworthy relatively new emerging infectious disease with the greatest impact on the dental profession has been the human immunodeficiency virus and AIDS. And now we have a severe epidemic of Ebola virus infection. It is back with a vengeance, this time in West Africa, with more than 5,500 confirmed cases at press time and a 69 percent case fatality ratio at the time of writing. The culprit is the Zaire Ebola virus species, the most lethal Ebola virus known, with case fatality ratios up to 90 percent. According to the IOM report, there are many reasons that new diseases emerge and re-emerge. These include health care advances with the attendant problems (e.g. transplantation, immunosuppression, antibiotic abuse, and contaminated blood and blood products) and human behavior, including injectable drug abuse and sexual promiscuity. Societal occurrences, such as economic impoverishment, war and civil conflict, too, are critical, according to the IOM. The current Ebola outbreak is complicated by its preconceived notions.

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Tooth loss declining in United States

The number of edentulous people in the United States will decline significantly, according to a recent study by researchers at the University of North Carolina at Chapel Hill. The research team tracked edentulism over the past hundred years and predict that the number of people with tooth loss will be 30 percent lower in 2050 than it was in 2010.

The researchers investigated population trends in edentulism among U.S. adults at least 15 years of age by creating time-series data from five national cross-sectional health surveys: 1957–1958 (100,000 adults), 1971–1975 (14,655 adults), 1988–1998 (18,011 adults), 1999–2002 (12,336 adults) and 2009–2012 (10,522 adults). Birth cohort analysis was used to isolate age and cohort effects. Geographic and socio-demographic variation in prevalence were investigated using a sixth U.S. survey of 432,519 adults conducted in 2010. Prevalence through 2050 was projected using age cohort regression models with simulation of prediction intervals.

Researchers predict that the number of people in the United States with tooth loss will be 30 percent lower in 2050 than it was in 2010. 

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