Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Journal of Infection and Public Health (2013) 6, 317—318

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EDITORIAL

The emergence of a new corona virus—MERS-CoV: Hind sight is always 20/20

The discovery of the novel Middle Eastern Respiratory Syndrome Corona Virus (MERS-CoV) came as a surprise to most people including physicians [1]. But it was not a surprise to the infectious disease community in particular. In fact, the documentation of the epidemiology of infectious outbreaks is well known and speculations of future emergent pathogens do exist [2,3]. Despite our knowledge of the history of epidemics and pandemics it is very difficult to prevent such adversities [4].

Most emerging organisms responsible for outbreaks are zoonotic pathogens to start with. And as elegantly described by Pike et al. they transform gradually to become capable of infecting humans [2]. Then at an advanced transformation stage such pathogens may sustain human to human transmission capabilities [2,5]. Some of these zoonotic pathogens are not capable of further development to become a pure human pathogen, but some do. The most fascinating of all is the human immune deficiency virus, a virus that has mesmerized scientists and physicians alike for at least the past 30 years [6].

Time and again we face the same scenario with emerging pathogens and for respiratory pathogens these scenarios are almost identical. The identification of clustering of cases of unusual respiratory illness with no diagnosis is the first indication of a potential outbreak. Diagnostic laboratories, when properly equipped, may go through the routine list of pathogens with no diagnosis [7]. It may take several cases to become ill before a novel virus can be identified. We have seen this all too frequently. In the past decade alone we have witnessed influenza viruses H3N2 and H1N1, SARS-CoV, influenza H7N9 and most recently with MERS-CoV emerging from the Arabian Peninsula. Dealing with these emerging infectious agents is extremely challenging, not only from the medical perspective, but also from the economical and the psychological impact on healthcare providers and patients alike [8].

The pressing questions that rise during the initial stages of such events include: where did the virus come from?, how were patients exposed?, are certain people at risk?, how is it transmitted?, what is the incubation period?, for how long will patients be infectious?, is there a risk from certain animals or other reservoir?, and what do we advise relatives of sick patients?. For HCWs one of the commonest fears is will they become infected and if so will they infect their loved ones at home?. There is high potential for chaos and healthcare provider burn out as well as psychological stress. During the SARS out break it was clearly documented that such stress led to work absenteeism which allowed for further difficulty in patient care [9,10]. In such situations it is most difficult for the leadership of healthcare organizations and public health authorities within the countries to reach a balance that does not create panic among the people but at the same time provides the guidance and facilitates the implementation of best practices for preventing disease transmission with the minimal scientific information that would be available at the time.

The implementation of simple standards such as hand hygiene, standard precautions and special isolation procedures whether contact, droplet or airborne is very important but may be dependent on very minimal scientific basis specific to the concerned pathogen [11]. Further, the implementation of these precautions may very well be out the reach of many facilities in developing countries. On the other hand, such measures may be the only available mode for preventing disease transmission and

1876-0341/$ — see front matter
http://dx.doi.org/10.1016/j.jiph.2013.06.002

outbreak escalation. In the current situation with the MERS-CoV, close to a year after the identification of the first case there is uncertainty on the basic features of its transmission. As of the preparation of this editorial 54 cases have been identified, among them 30 fatalities; a convincing situation for unsustained human to human transmission. Cases have been identified in KSA, Jordan, Qatar, UAE, UK, France, Germany and most recently Tunisia. The unavailability of a serological test to date has hindered us from identifying seroconversion rates among asymptomatic individuals while the current WHO guidelines, which understandably requests for testing only those with a link to the Arabian Peninsula, has also delayed our ability to identify cases emerging concurrently from other countries [12].

There is fear of the current virus taking a more aggressive path and emerging into a pandemic virus. Today the current viruses, whether the novel MERS-CoV or any of the emerging influenza viruses, do have the potential capacity to evolve into acquiring the ability to sustained human to human transmission. And therefore, we will continue to hope for the best and act as if it is the worst. In doing so, the infectious disease community will be criticized for being overstated in their policies and take the heat as they have in the past with similar scenarios, such as the H1N1 pandemic [13,14]. I just hope people realize that hind sight is always 20/20.

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