

Abstract

Severe Acute Respiratory Infections with Influenza and Non-Influenza Respiratory Viruses: Yemen, 2011-2016

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Abstract

Background: Sentinel surveillance for severe acute respiratory infections (SARI) is an important tool to monitor influenza circulation and burden of other respiratory pathogens. In Yemen, two sites established at Sana'a and Aden city. Pharyngeal samples are tested for influenza and non-influenza by the Real-Time-PCR assay in NAMRU 3.

Objective: Describe severity of SARI as indicated by admission to intensive care unit (ICU) and fatality as well as associated influenza and non-influenza viruses among patients in the two sites to provide recommendations for improving SARI surveillance.

Methods: Data from 2012-2016 of SARI patients who admitted in the two sites based on WHO case definition was obtained from Ministry of Health, It analyzed by Epi info 7 and $P < 0.05$ was the cut point for significance.

Results: 2,211 patients were admitted in the two sites, 32% in 2013, 62% from Aden, 63% < two years, 20% had chronic diseases and 35% admitted to ICU. Overall SARI fatality was 8% which was significantly higher in Aden than Sana'a (10% vs. 5%, $P < 0.001$), among patients with chronic disease (14% vs. 6.5% $P < 0.001$) and admitted to ICU (10% vs. 7%, $P = 0.04$). Samples of 82% (1,811) patients were tested where influenza viruses (75% Type A) were detected in 5% (89) more in Sana'a than Aden (6% vs. 4%, $P = 0.04$) compared to 36% (655) of non-influenza viruses that included 43% (279) Respiratory Syncytial Virus and 17% (109) Adenovirus. The fatality of confirmed influenza was 9% compared to 8% for non-influenza viruses.

Conclusions: Our findings showed that children < 2 years are more affected by SARI. Both influenza and non-influenza viruses lead to mortality and necessitate prompt diagnosis and treatment. Expanding SARI surveillance to involve more hospitals at different governorate is recommended to give more comprehensive picture regarding SARI.

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