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Joint Event on 2nd World Congress on
Infectious Diseases
&
International Conference on
Pediatric Care & Pediatric Infectious Diseases
August 24-26, 2016 Philadelphia, USA

Sakly Mouna et al., J Infect Dis Ther 2016, 4:4(Suppl)
http://dx.doi.org/10.4172/2332-0877.C1.009

Epidemiological pattern of influenza in Tunisia: Season 2015 - 2016

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Introduction: the Influenza is an acute viral infection transmitted by air. It`s a highly contagious disease that can cause serious complications, especially among vulnerable people, it presents a major public health issue with a considerable socio-economic impact.

Purpose: Review the epidemiological situation of influenza in Tunisia in The 2015-2016 season. Determine if the A (H1N1) virus has a particular virulence in Tunisia during the 2015-2016 season. Make recommendations to overcome challenges.

Methods: This retrospective study is based on data issued by the National influenza surveillance unit; it relies on a descriptive analysis of influenza surveillance data provided by the network of sentinel sites and national influenza center (NIC).

Results & Discussion: Influenza surveillance in Tunisia has been in established since 1999 with the creation of network sentinel sites, but it significantly developed on March 2014, by the enhancement of the national influenza surveillance system. In Tunisia, clinical, epidemiological and virological surveillance of influenza began in week 40/2015 (1st of October 2015) and ended in week 18/2016 (30th of April 2016). During the period of study: 96,240 cases ILI (Influenza-like illness) were collected from a total of 1,394,782 patients seen at sentinel ILI sites, representing 6.9% of total patients versus 7.7% during the 2014-2015 season. The epidemiological surveillance of influenza on the Tunisian territory showed that the influenza epidemic was spreading in the winter season 2015/2016 during fourteen weeks from the 25th of January 2016 (2016 / W4) to the 29th of April 2016 (2016/ W18) with an incidence rate of 10.3%. It started a little later than it did during the previous season and lasted relatively longer (14 weeks versus 8 weeks). During the 2014-2015 season, influenza reached its peak during the coldest weeks (S6 to S9) and there was an inverse trend of the monthly average temperature. This correlation has not been observed during this season having regard to the shift of the cold season. In fact, this flu season peaked during the week of 14 to 20 March 2016 (2016/S12), later than usual. These findings were also observed in Europe and in USA. All of the 24 governorates of Tunisia have been affected by the influenza and the incidence is higher in the most populated regions. Children 5 to 16 years are the most affected. Among the visits for influenza-like illness (ILI), 190 severe cases were hospitalized representing a comparable proportion to the previous season (0.19% vs 0.2%) and were mainly infected with A (H1N1) pmd09 virus (57% of cases). The average age for these severe cases was 46.5 years, with extreme ages varying between 6 months and 73 years. Their lethality was significantly higher than that observed during the previous season (20% vs 3%) and was H1N1 associated in 73.7% of cases. During Week 12, there was an increased circulation of influenza viruses in Tunisia and subsequently there were the highest number of deaths (10 deaths representing 26.3% of all influenza deaths). 37.1% of influenza deaths had no risk factors. The co-circulation of the three influenza viruses began in late January (W4) with a gradual increase in the circulation of the type A (H1N1) pmd09 virus. During the week W12, the type A (H1N1) pmd09 virus was more common than the type B. The seasonal distribution of three types of influenza viruses was: Virus A (H1N1) pmd09 (57.4%), Virus A (H3N2) (38.5%) and Virus B (3.5%). The positivity rate for influenza was 24.4% vs 28.4% during the previous season.

Conclusion: The 2015-2016 influenza epidemic started little later than the previous season, marked by the co-circulation of three influenza viruses and the predominance of the virulent type A (H1N1) pmd09 virus, the impact of the epidemic in terms of ILI consultations and hospitalizations was comparable to the previous season, but the lethality of severe cases was significantly higher. Viruses know no borders, control and fight against the influenza require a global vision of the dynamics of the disease in our country, as well as around the Mediterranean in order to better contain any unusual event.

Biography

Sakly Mouna has completed her Medicine studies from El Manar University, Faculty of Medicine of Tunisia. She has submitted her Doctoral thesis in Medicine in 2002, completed Master of Advanced Studies in Economy Health and Hospital Management from the Faculty of Medicine of Tunisia in 2009, Master of Advanced Studies in Tobacco from the Faculty of Medicine of Tunisia in 2010 and Certification Green Belt Lean Manufacturing and Management L2M in 2016. She is the Coordinator of child health programs and primary health care quality program in Tunisia and she is also the Tunisian focal point on disability and deafness and a National Trainer in the counseling and HIV screening among pregnant women. She has published some papers in reputed journals. She is a Reviewer of *Public Health Review*, France since 2016 and a Teacher of the national maternal and newborn health program in the University Mohamed El Matri at Tunisia.

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