Seasonal influenza continues to be a major public health problem worldwide. In fact, this acute viral infection is highly contagious and affects all ages. Although in most cases it’s a minor illness, it may lead to severe complications and death especially in high risk populations. Effective surveillance is needed to have a vision of the dynamics of influenza and to control it. The purpose of this work is:

- To describe influenza severe cases and deaths in the season of 2015-2016 and compare it to previous seasons.
- To determine what are the influenza viruses currently circulating and which types have particular virulence in 2015-2016 season
- To suggest recommendations to improve influenza control

II- Methods

In Tunisia, Influenza Sentinel Surveillance Network (ISSN) was implemented since 1999 and was based on the National Influenza Center (NIC) and sentinel sites. However, it has been considerably improved and developed in March 2014 in order to conform to international standards.

Influenza surveillance for 2015-2016 lasted from week 40/2015 (1st October 2015) to week 18/2016 (30th April 2016). During this season, 96,240 cases of IIL (Influenza-like illness) were collected representing 6.9% of total patients seen at IIL sites.

III- Results and Discussion

Influenza Hospitalization Surveillance

Among these cases, 190 were severe and needed hospitalization. The hospitalization rate was 0.19% which was comparable to the previous year (0.2%). Men were slightly more affected (51.2%). The average age was 46.5 years (extremes varying from 6 months to 73 years). Adults between the age of 50 and 65 years were the most affected (Figure 1). Less than a half of the cases had risk factors or associated illness (Figure 2).

In France, among a total of 2.3 million cases of IIL, 1050 severe cases were collected. Men were more affected (sex ratio 1.5). The average age was 55 years (1 month to 100 years) and the majority had risk factors [1]. In Canada and USA, the number of hospitalized influenza cases are less than the previous season [2,3].

IV- Recommendations

1. Increase access and scale up vaccination, especially in health workers and high risk groups
2. Adapt influenza vaccine to the current virological situation
3. Provide a planning in case of flu pandemic conforming to international standards and provide infrastructure for an early warning system for outbreaks of new virus subtypes.
4. Sensitize the sentinel sites to a regular reporting for a better surveillance
5. Strengthen the network of virology laboratories by implementing more laboratories and updating the knowledge and working methods of those already implemented.
6. Add more sentinel sites in Influenza surveillance, especially SARI sites
7. Standardize data collection and sample procedures and improve the management system
8. Provide a national electronic system for collection of information as a platform for sharing epidemiological data and better and easy feedbacks

V- Conclusion

In Tunisia, the influenza epidemic of 2015-2016 is considered more severe than the previous season with a significantly higher lethality of severe cases (38 deaths in total). Most of these cases and deaths were due to the virulent type A (H1N1) pdm09 virus. Since most of the deaths had risk factors and none of them were vaccinated, this highlights the need to improve preventive measures in high risk groups.

VI- References

7. SANOFI Pasteur. New Four-Strain Influenza Vaccine, VaxigripTetra%; regulatory dossier from Sanofi Pasteur now approved in Europe