

## 3rd International Conference on Influenza and Zoonotic Diseases August 21-22, 2017 Birmingham, UK- Knowledge, attitudes and beliefs related to seasonal influenza vaccination among Tunisian physicians

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### Abstract

**Statement of the Problem:** Despite the recommendations for physicians, nurses, and other personnel in both hospital and outpatientcare settings to be vaccinated annually against influenza, the influenza vaccination rate among Tunisian healthcare workers (HCW) remains low. The purpose of this survey is to assess influenza vaccination status and related knowledge, attitudes and beliefs among a national sample of primary care physicians and specialists likely to see patients at high risk for complications from influenza.

**Methodology:** We are conducting a prospective cross-sectional survey in Tunis (Tunisia) from February 2017 to April 2017. A selfadministered questionnaire covering knowledge, attitudes and beliefs related to influenza was mailed to a sample of physicians who likely to see patients at high risk for complications from influenza. Herein, we present the first results of the study during February 2017.

**Results:** In a first mailing, during February 2017, 150 physicians were included. The overall response was 54.6% (n=82). Physicians reported a very low vaccination rate: 12% (n=10). Of the 72 unvaccinated, 33.3% considered low risk of catching or spreading influenza, 26.3% did not have access to vaccine on site, 16.6% feared the side effects of the vaccine and 5.5% considered influenza to be a benign illness. All the physicians recommend vaccination for their patients at high risk for complications from influenza. They were also asked about the HCWs vaccination status in their departments: 26.8% of the physicians estimated that HCWs were vaccinated.

**Conclusion & Significance:** This review highlights the low rate of influenza vaccination among physicians and other HCWs. To improve these rates, worksite policies that facilitate access to vaccination should continue to be pursued. Further studies on this topic, including qualitative and interventional studies (based on behavior change theories) are important. These should cover occupational vaccines and determinants known to be associated with vaccine hesitancy.

### Introduction

Seasonal influenza (SI) is a highly contagious vaccine preventable infectious disease (VPD), which can result in debilitating illness and potentially fatal complications in subjects at risk, representing a major public health problem with a heavy impact on National Healthcare Systems. Because of their professional duties, healthcare workers (HCWs) not only are at high risk of contracting SI, but also represent a significant source of transmission and circulation of the viruses in the community. SI vaccine (SIV) is safe and usually well-tolerated, and evidence suggests that policies involving immunization of HCWs may cost-effectively decrease employee absenteeism caused by SI. Moreover, by preventing its transmission between HCWs and patients, SIV would ultimately improve patient safety and decrease influenza-related morbidity and mortality. Since 1981, the United States Centers for Disease Control and Prevention (CDC) have therefore advised that HCWs will receive SIV, and in 2002 also the World Health Organization (WHO) began encouraging annual immunization where supported by national data and capacities, further strengthening its recommendations during the 2009 H1N1 influenza pandemic. Nowadays, several European Public Health Authorities, such as the Italian National Health Service (in Italian: Servizio Sanitario Nazionale, SSN), have implemented SIV in HCWs through official recommendations (in Italy: National Immunization Prevention Plan / Piano Nazionale di Prevenzione Vaccinale or PNPV). However, vaccination coverage remains heterogeneous and usually unsatisfactory, with rates well below the minimum target of 75% required by the European Commission, as still ranging from about 15% to 50% in different countries. Although Italian data on vaccination coverage among HCWs are not routinely available, recent studies have confirmed an inadequate compliance, suggesting that vaccination rates would have significantly declined since 2009 H1N1 pandemic, being presumptively well below 20%.

### Materials and methods

**Study design:** A cross-sectional questionnaire-based study was performed in the second half of 2015, involving OPh operating in the Autonomous Province (AP) of Trento (North-Eastern Italy). Participants were inquired about their KAP towards vaccinations, and more specifically on the SIV. Sampling was performed through convenience, as the initial population included all OPh participating to

a seminar on occupational health that took place in the AP of Trento in October 2015 and assisting at least one healthcare provider in the AP of Trento (n = 105, 43.9% of 239 OPh usually operating in the AP of Trento). All participants giving their preventive agreement in the following weeks received a telephonic interview assessing knowledge and attitudes towards SI and SIV in HCWs.

### **Ethical considerations**

Before they give their consent, participants were informed that all information would be gathered anonymous and handled confidentially. Participation was voluntary, and the questionnaire was collected only in subjects who expressed consent for study participation. As individual participants cannot be identified based on the presented material, this study caused no plausible harm or stigma to participating individuals.

### **Data analysis**

Two independent researchers, one of whom read the responses from each questionnaire while the other researcher reviewed the entered data, ensured the accuracy of data entry. The primary investigator examined unclear responses to determine the correct answer. We calculated the described indices for general knowledge (GKS), risk perception (RPS) and vaccine propensity (G-PS and IV-PS).

Continuous variables (i.e. age, GKS, RPS, G-PS, IVPS) were expressed as mean  $\pm$  standard deviation. Categorical variables were reported as percent values. Univariate confrontation between continuous variables was performed through Student's t test for unpaired data, whereas proportions were evaluated through Chisquared test (with continuity correction). Association of dichotomous variables was assessed in univariate analysis through calculation of respective Odds Ratios (OR) with their respective 95% Confidence Intervals (95% CI). Relations between the continuous variables were explored through the calculation of the Pearson productmoment correlation coefficient (i.e. Pearson's r).

### **Results**

Demographic data. Overall, 95/105 participants (90.5%) gave their consent to the inquiry and 92/105 compiled the questionnaire regarding IV/SIV (87.6%, i.e. the 38.5% of all OPh operating in the AP of Trento): as shown in Table I, 39 (42.4%) were males, and 53 (57.6%) females, with a mean age of  $47.3 \pm 10.4$  years ( $50.4 \pm 9.3$  in males vs.  $49.4 \pm 8.1$  in females,  $p = 0.582$ ), and 55.4% of the participants (51/92) were > 50 year-old. Among the sampled subjects, 50 (54.3%) were specialists in Occupational Medicine, whereas 42 (45.7%) were qualified as specialist in Hygiene and Public Health.