

## EDITORIAL

## Flu transmission in emergency departments

*Transmisión de la gripe en los servicios de urgencias*

Antoni Trilla

Most of us have experienced a *déjà vu*, a sensation of recognizing an experience as if we had lived it before even though we know it is the first time we have experienced it. Every year, at the end of autumn, all health professionals are faced with a "déjà vu", which can be summarized in a few questions: what will the flu be like this season? How effective will the vaccine be? Will we withhold the pressure? Actually, *déjà vu* is a mechanism that the brain uses to verify that our memory functions perfectly. And with the flu, it works perfectly.

In a normal flu season 20-30% of the population can be infected. Most will suffer a mild and even asymptomatic infection. A low but significant percentage of patients with flu, most of them included in some of the groups at known risk, will suffer a more serious picture or complications. Many will turn to the health system, either through the telephone helplines, requesting a visit to the primary care system or by presence (with or without prior referral) to an emergency department (ED) of any of our hospitals<sup>1-3</sup>. There are patients who undoubtedly deserve urgent attention and others who should not be taken care of in the ED. Among these, there is a proportion of patients included in the so-called worried well, that is, they are well, but worried. Add to this panorama the pressure of the media, which each year publish as news the start of the flu vaccination campaign and as the most outstanding news the moment in which the incidence of flu reaches the epidemic threshold, usually accompanied by some that report about the saturation (not collapse...) of the ED, when the epidemic is rising and is close to its peak. The capacity to attend to a punctual overload of patients (surge capacity) of our hospitals is very limited (in the best cases) or nonexistent (in most cases). In addition, in most EDs, long waits for patients with a lower level of severity take place in rooms where there are no minimum conditions of individual space, separation between patients or possibilities of minimum measures of prevention of contagion<sup>4</sup>.

Under these conditions, it is not at all inappropriate to consider that ED can be a place of greater risk of contracting the flu for some patients and professionals. To verify this hypothesis, Esteve et al. publish in this is-

sue of EMERGENCIAS the assessment of the risk of transmission of flu in a hospital ED<sup>5</sup>, analysing the situation in the week of maximum epidemic incidence and evaluating the factors that influence transmission. For this, they use a retrospective cohort design in people assigned to a health area during the 2014-15 season. The variables studied included the number of visits to the ED, the time in the waiting room and the total length of stay. According to their results, the relative risk of contracting flu in the emergency department compared to the population was 3.29 (95% CI: 1.53-7.08,  $p = 0.002$ ). Being less than 15 years old and making more than 1 visit to the ED also increased the risk significantly. Although the study has limitations that the authors themselves analyse (the number of cases of flu was not particularly high and any diagnosis coded as such in the study period was considered as flu, although in many cases there was no microbiological confirmation), it can be considered that the conclusions are adequate and valid.

Flu is easily transmissible, basically by contact with the droplet nuclei, either directly or through the inanimate environment<sup>6</sup>. The aerial transmission of flu, although it is not ruled out in some specific cases, is not the main one<sup>7</sup>. Paediatric cases, which are usually the most numerous and usually milder, are an important factor of infection in the community, especially in schools and homes<sup>8</sup>. Anecdotally, in a Canadian study it was observed that the best predictor of visits to the ED of a paediatric hospital was the increase in the number of Tweeter messages, originating in the geographical area of influence of the hospital, that contained one or more specific terms related to respiratory symptoms<sup>9</sup>. On the other hand, many patients with other respiratory or cardiac symptoms may actually also have the flu. In a French study<sup>10</sup>, the role of the flu virus, in the epidemic period, in the patients who consulted the ED was analysed. Positive rates for flu virus in patients with flu syndrome, pneumonia, respiratory, cardiac or hemodynamic distress and patients with decompensation of a chronic obstructive pulmonary disease or heart failure were similar in all of them.

Given this scenario, what measures are reasonable to use? The recommendations are not difficult. To per-

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form them, it's another matter. First, insisting on the information and education of citizens to make reasonable use of health services, public and private (the latter also collapses in the middle of the flu epidemic ...). Also insisting on the usefulness, certainly limited, of the vaccine, especially among the groups at high risk of complications of this infection. The current vaccine is not perfect, but it is safe and reasonably effective in most cases and flu seasons, so the most reasonable recommendation is still to be vaccinated<sup>11-13</sup>.

Second, to have large EDs, in which patients and their families can be cared for or wait the necessary time in adequate conditions of safety, comfort and privacy, designed to minimize or reduce the risk of transmission of microorganisms such as the virus of the flu. In the meantime, they are not available, or even in those fortunate centers where EDs are indeed already, the so-called respiratory etiquette (coughing and sneezing precautions, hand hygiene, preventive use of facial masks) should always be used. It also helps to have quick diagnostic methods for flu, in order to properly classify patients and reduce waiting time in the emergency room<sup>14</sup>.

Third, but not less important, try to bring some "professional coherence". The health staff, especially those who work in the emergency room, have the opportunity and an ethical duty to reduce the risk of contracting the flu and specially to avoid infecting the patients they can treat if they are vaccinated annually. Flu vaccination rates of health personnel are very low (less than 25-30%), when the recommendation of the World Health Organization is that 75% should be achieved. Multiple approaches to this problem have been tried, without much global success, although it cannot be discouraged and we must continue insisting<sup>15</sup>. You also have to avoid "attendism" (work in the emergency department with flu symptoms), while at the same time you have to prevent work absenteeism, when the work load is maximum, as it can happen during the flu epidemic. A modelling study, with data from the USA<sup>16</sup>, determined the number of annual cases of flu among health personnel as a result of their occupational exposure in hospitals and ED. Considering the standard follow-up of infection control measures, the authors estimated a number of infections between 34,150 and 151,300. The model also demonstrated that vaccination and monitoring of basic measures to prevent the transmission of infections in health facilities were the most effective measures to reduce this important burden of disease.

Faced with challenges that seem impossible, partial but simple solutions, a lot of patience, professionalism and perseverance.

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