Brazilian policy for influenza vaccination and its impact on the health of the elderly

Acute viral respiratory infections are a widespread cause of hospitalization and death, particularly among the elderly and individuals with chronic diseases. Various studies have shown that viral respiratory infection is followed by greater susceptibility to atherothrombotic phenomena, clinical decompensation of diabetes, cardiopathies, and obstructive pulmonary disease, among others. At the public health level, the elderly are the most vulnerable group due to age, associated with the increased prevalence of these diseases.

Vaccination against influenza has been the most effective measure for dealing with the problem, as recommended by the World Health Organization since 1963. In Brazil, since 1999 the Ministry of Health has made the influenza vaccine available to both the elderly and institutionalized individuals and those with chronic diseases. Some 130 million *reais* (approximately 60 million U$) are spent per year to purchase vaccine, in addition to publicizing and organizing 73.7 thousand vaccination facilities. Given the size of Brazil's territory, this is in fact an enormous free and universal undertaking that reaches more than 70% of the country's elderly population. At present, Brazil is likely the country with the largest public investment and vaccine coverage of the elderly.

Several studies have shown a reduction in hospitalizations and deaths from respiratory diseases in the elderly since launching these vaccination campaigns. However, their real impact is difficult to assess, due to the lack of etiological diagnosis of respiratory infections, frequent circulation of other viruses with respiratory tropism, and precarious information on patient records and death certificates in various regions of the country.

Meanwhile, the expansion of the respiratory virus sentinel surveillance system has helped improve the understanding of the dynamics and epidemiology of respiratory infections in susceptible and vaccinated populations.

Despite the large investments and mobilization, the Brazilian influenza control program still faces some challenges, including: expanding and leveling vaccine coverage in groups that tend to show up less during campaigns (individuals under 70 years of age and those with more schooling, living in the countryside, or with chronic diseases).

In addition to the vaccination campaigns, which are the key driving force for influenza control, there are other challenges, like incorporating the monitoring of influenza-related morbidity and mortality into the routine of epidemiological surveillance teams, thereby facilitating the investigation of excess deaths, hospitalizations, or severe cases related to respiratory infections, even using ecological studies and indirect indicators. Another remaining challenge is to expand the currently incipient and limited coverage of 23-valent polysaccharide pneumococcal vaccination to encompass at-risk populations. Implementation of post-hospital discharge and emergency room vaccination has been identified as a possible strategy to protect individuals who are especially vulnerable to *Streptococcus pneumoniae* infections, one of the main causes of death in individuals over 70 years of age.

Health professionals have an important role in recommending these vaccines, which reduce the harm to the health of the elderly and individuals with chronic diseases, elucidating controversies on their efficacy and adverse events and publicizing the real benefits of vaccination.

Given the broad scope and dimension of its actions, Brazil is now setting an example for other countries, but the country still needs to invest more in activities beyond the campaigns and to provide epidemiological surveillance teams with the conditions to monitor particular local/regional epidemiological situations and evaluate the impact of these actions in various areas of the national territory.

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