

PREFACE

Influenza vaccination coverage in the elderly and socio-economic inequalities in Italy

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Every year, seasonal influenza epidemics affect about 5-15% of the world's population, resulting in 3-5 million serious cases and 290,000-650,000 deaths [1]. The WHO defines seasonal influenza as a year-round disease burden, causing illnesses that ranges in severity and sometimes leads to hospitalization and death [1]. Some frail subjects, such as the elderly, are considered at high risk of complications, hospitalization and death [2-4].

Routine annual vaccination is the most effective means of avoiding influenza illness, reducing the associated complications and, consequently, reducing the impact of epidemics, and is strongly recommended by many health authorities worldwide [1, 5, 6]. Italy has a national influenza vaccination programme which identifies specific categories, such as subjects with chronic conditions, pregnant women, healthcare workers and those over 65 years old, which can benefit from free vaccination [7]. Despite this health opportunity, the influenza coverage rate in Italy does not reach the minimum recommended threshold of 75% and is far from the optimum target of 95% [8]. Indeed, a downward trend in coverage in the elderly has been observed since the 2009-2010 season; the average national coverage rate fell from 65.6% in 2009-2010 to 49% in 2014-2015 (its lowest value); a slight upward trend was recorded in the 2016-2017 and 2017-2018 seasons, when coverage reached 52.6% and 52.7%, respectively [4, 8].

This unsatisfactory level of coverage results in excessive recourse to Emergency Departments and in an increase in hospital accesses and hospitalization for complications in the elderly during epidemic peaks, causing organizational strain and increasing healthcare costs [5, 6]. Some interventions could improve coverage rates among the elderly, such as "tailor-made" information campaigns using innovative communication strategies and healthcare worker training. It is crucial to implement communication strategies that take into account the needs of the elderly population, while also involving elderly people's associations in awareness-raising activities. Moreover, strengthening the role of general practitioners in promoting influenza vaccination is fundamental.

Several international studies have shown that socio-economic conditions and deprivation play an important role in the lack of adherence to vaccination [9-12]. Specifically, studies investigating the role of socio-economic status (SES) have highlighted the correlation between deprivation and low vaccination coverage among groups at risk, such as the elderly. Indeed, SES is one of the main determinants of health, and affects the subject's ability to fully comply with preventive measures and

healthcare prescriptions. Moreover, it assumes great relevance with regard to age and non-compliance with influenza vaccination [10].

In order to implement efficacious interventions to promote vaccination, it is important to understand the reasons behind non-compliance. This aspect could be investigated by implementing a model based on the intention to vaccinate, and adapting this to older people [13-15]. In this context, we designed and developed a project aimed at evaluating the association between vaccination coverage and socio-economic health inequalities in the elderly. The study was carried out in 10 Italian areas: Genoa, Ferrara, some cities in Veneto, Sassari, Cagliari, Rome, Florence, Siena, Foggia and Palermo. In order to better identify sub-groups of the population who do not comply with vaccination, we used socio-economic indicators that are able to detect the multidimensional aspects of social stratification. Indeed, indices of SES enable us to identify and evaluate the relationship between socio-economic inequalities and health outcomes. As these indices yield a geographical description of the population's health conditions and approximate the individual SES to that of the area of residence, they have already proved able to identify populations at risk of late diagnosis and/or under-treatment for chronic/degenerative diseases [16-19]. This information could be used to guide "tailor-made" interventions to promote health and vaccination in Italy. Furthermore, in support of this methodology, a specific WHO programme [20] encourages precisely this type of action, which must be adapted to the peculiarities of the specific areas.

Finally, the need to improve vaccination coverage in the elderly should be considered in the current and future demographic context. Given the ageing of the population, the demand for health care will increase in the coming years and, consequently, a greater burden will be placed on economic resources. Preventive action to promote "healthy ageing" is therefore fundamental, and vaccinations fall within this perspective.

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