Risk of allergies among migrants in Europe: a further area of application of the hygienic hypothesis?

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Official data show that 2.4 million immigrants entered the EU-27 from non-EU-27 countries in 2018. 21.8 million people (4.9 %) of the 446.8 million people living in the EU-27 on 1 January 2019 were non-EU-27 citizens. Almost 104 thousand were refugees, over 20 thousand authorized to stay for humanitarian reasons (Eurostat, 2014), and the total number of undocumented migrants in Europe is estimated between 5 to 8 million (GCIM 2005). Main areas of employment for migrants are agriculture, manufacturing and construction. Very often employment is in a "3-D job (Dirty, Dangerous and Demanding). Other problems migrants face are inequality in access into health care system, poor housing, lifestyle and religion-related specific risks, lack of social security and legal protection, and contact with risk factors not experienced in the mother countries, among them, allergens. However, it is unclear whether they experience different levels of vulnerability to allergens that natives. In order to clarify this aspect, we have conducted a broad literature research in pubmed, and we found that the risk of diseases such as rhinitis, oculorhinitis, asthma is age and time dependent: and that early age and longer time in the new environment increase risk time from migration, together with lifestyle and housing conditions. In particular, Albanian, south Asian and Turkish migrants appear protected from allergic diseases, with a level of protection apparently inversely associated with the level of adaptation to the host country culture. Main protection's factors are having parents, who do not speak the host country's language and maintainthe mother country's lifestyle.

In this scenario, it seems clear that the so called "Hygienic Hypothesis" can be adapted also to migrants. In fact, those who experienced contact with allergens in the early life are protected, whilst the others are not, in particular if exposed, in the urban environment also to typical urban contaminants. This scenario brought some authors to create the definition "Healthy Migrant Effect". As for the mechanisms of action of this effect, available data suggest intracellular mild pathogens, able to colonize antigen-resenting cells for a long time, affect the future development of immune responses. Which are the main consequences of this situation on primary health care providers? The first, is that there is some time, after migration, to train migrant workers and people to face the risk of contact with environmental contaminants; the second, that the allergic risks exists an should be addressed with specific screening activities, to identify both vulnerable subjects (primary prevention) and asymptomatic sensitized persons (secondary prevention). The third is that these activities can be

possible only through the promotion of the wider possible access of migrant workers and people in the primary health care systems.