Differences in Premature Mortality between Natives and Immigrants. A Study on Health Integration in the Recent Immigration in Spain

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Abstract:

Objective: The aim of this research is analyzed of integration in health measured by indicators of premature mortality of the immigrant population in comparison with the native population in Spain for the period 2012-2015.

Methods: We use linked data from the 2011 Population Census and data from the Natural Movement of Population death records for the years 2012-2015 along with data from the Municipal Register, both from the Spanish National Statistics Institute (INE). We calculate specific premature mortality rates, potential years of life lost (YPLL), and premature mortality risk models to compare health patterns among immigrants and the native population.

Preliminary descriptive results: The first results indicate the existence of a "healthy migrant phenomenon" derived from the positive selection of the immigrant population. However, the data show important differences according to regions of origin, sex and different specific causes of death.

Contribution: The research approach responds to a gap in both epidemiological literature and the integration process of immigrants in the Spanish case. The linkage of registry data offers an enormous potential to adequately control the possible existence of an immigrant health advantage or disadvantage.

Extended Abstract

1. Background: immigration, health and mortality

There is a paradox in the relationship between premature mortality and immigration. On the one hand, the evidence shows that conditions of poverty-vulnerability and the worst socio-economic level lead to a higher risk of premature mortality. This suggests that the immigrant population, particularly economic immigrants from less developed regions, with a greater presence in the lower strata of society (worse occupations, higher unemployment rates, poor housing conditions, etc.), should have higher mortality rates at adult ages. However, on the other hand, migration is defined by an important selectivity insofar as it implies a high requirement necessary to increase the chances of success, so that migrants tend to be young and in good health (Razum et al., 1998). In addition, exposure to risk factors should not always harm immigrants as opposed to natives. For example, in the case of the United States, some authors speak of a "Hispanic paradox" given that Latino immigrants have higher life expectancy linked to healthier lifestyles (Domínguez et al. 2013).

In the case of Spain, so far, there is no research that has deepened in the study the differences in mortality between the immigrant population and the autochthonous population. This deficit is explained because the immigration in Spain is still recent and because until recently there has been a shortage of data.

Previous research has placed the object of study in the relationship between immigration and the health system, underlining in general that there is no more intense use of the Welfare State by immigrants (Muñoz de Bustillo y Grande, 2017). Specifically, the literature does not find a greater use by immigrants of specialised care (Llop-Gironés et al., 2014), nor a greater cost of emergency care (Cots et al., 2007), being the aggregate use of the similar health system between both groups (Burón et al., 2008).

In general, the papers on health levels (García-Gómez 2009) and on mortality (Ruiz-Ramos and Juarez, 2013) conclude that there is lower mortality in the immigrant population linked to the "healthy migrant phenomenon", as well as significant differences associated with the country of birth and the time spent in Spain. Complementarily, recent studies have estimated that the 2012 health reform in Spain that prevented undocumented persons from accessing the full services of the health system has led to a very significant increase in mortality among undocumented immigrants (Juanmarti Mestres, López-Casasnovas and Vall Castelló, 2018).

2. Objective

The aim of this research is to offer a general and updated vision of integration in health measured by indicators of premature mortality of the immigrant population in comparison with the native population in Spain. We analyze a particularly interesting and novel period: 2012-2015. This period is a consolidation of the time of residence of immigrants in Spain and, in addition, this affects the impact of the economic crisis that began in 2008.

Premature mortality refers to mortality that occurs before the average age of death of a given population, or more generally, before an age that is considered either "normal". We take as the ages for measuring premature mortality 15 years of age and 65 years of age, in the sense that both ages mark milestones in the life cycle. For the proposed objective, premature mortality will be estimated as that which occurs before the age of 65 and mortality in children under 15 years of age is excluded.

3. Methods and data

The data source we use is the result of a tailor-made request to the Spanish National Statistics Institute (INE) to link the micro-data of the 2011 Population Census with two updates of the Municipal Register of Inhabitants for the years 2012 and 2016 and with the data on deaths due to specific causes of the Natural Movement of Population for the years 2011, 2012, 2013, 2014 and 2015.

The research proposes to address the causes of death at these ages in three major typologies (Murray and López, 2006): a) infectious diseases, and maternal, perinatal and nutritional disorders; b) chronic and non-infectious diseases; c) external causes. These three groups are divided into 19 categories, and in turn into 105 specific causes of death (see Table 1).

According to the general aim of comparing the immigrant population and the native population we are going to use three methodological strategies.

First, we do a descriptive exercise. Standardized premature mortality rates by age, sex, detailed cause of death and regions of origin of the immigrants are used as indicators of premature mortality.

Secondly, the decomposition of life expectancy and premature mortality by group or cause of death, performing separate analyses for men and women, and for immigrants and natives of the potential years of life lost (YPLL).

Thirdly, thanks to the richness and representativeness of the data source, we estimate regression models that allow us to evaluate the risk reasons or the effect of the condition of being an immigrant on the different types of premature mortality controlled by sociodemographic variables, educational levels, employment situation, occupation, etc. This evaluation of the risk rate of premature mortality according to sex and migratory condition serves as a proxy for the integration in health of different groups of immigrants.

Table 1. International Statistical Classification of Diseases and Causes of Death by major groups from CIE-10 and CIE-9.

	Major groups of causes of death	Code from the detailed list CIE-10	Code from the detailed list CIE-9
001-102	All causes of death	A00-Y89	001-E999
I. 001-008	Certain infectious and parasitic diseases	A00-B99, R75, U04.9	001-139, 279.5.6, 795.8
II. 009-041	Tumors	C00-D48	140-239, 273.1.3, 289.8
III. 042-043	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism ematopoyéticos,D50-D89 y ciertos trastornos que afectan al mecanismo de la inmunidad	D50-589	273.0.2, 279-289 (except 279.5.6, 289.8)
IV. 044-045	Endocrine, nutritional and metabolic diseases metabólicas	E00-E90	240-278, 330.0.1 (excepto 273.0.1.2.3, 274)
V. 046-049	Mental and behavioural disorders	F00-F99	290-319
VI-VIII. 050-052	Diseases of the nervous system, the ear and mastoid process	G00-H95	320-389, 435 (except 330.0.1)
IX. 053-061	Diseases of the circulatory system	I00-I99	390-459, (except 427.5, 435, 446, 459.0)
X. 062-067	Diseases of the respiratory system	J00-J99	460-519, 786.0
XI. 068-072	Diseases of the digestive system	K00-K93	520-579
XII. 073	Diseases of the skin and subcutaneous tissue	L00-L99	680-709
XIII. 074-076	Diseases of the musculoskeletal system and connective tissue	M00-M99	274, 446, 710-739
XIV. 077-080	Diseases of the genitourinary system	N00-N99	580-629
XV. 081	Pregnancy, childbirth and the puerperium	O00-O99	630-676
XVI. 082	Certain conditions originating in the perinatal period	P00-P96	760-779
XVII. 083-085	Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99	740-759
XVIII. 086-089	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R74, R76-R99	427.5, 459.0, 780-799 (except 786.0
XX. 090-102	External causes of morbidity and mortality	V01-Y89	E800-E999

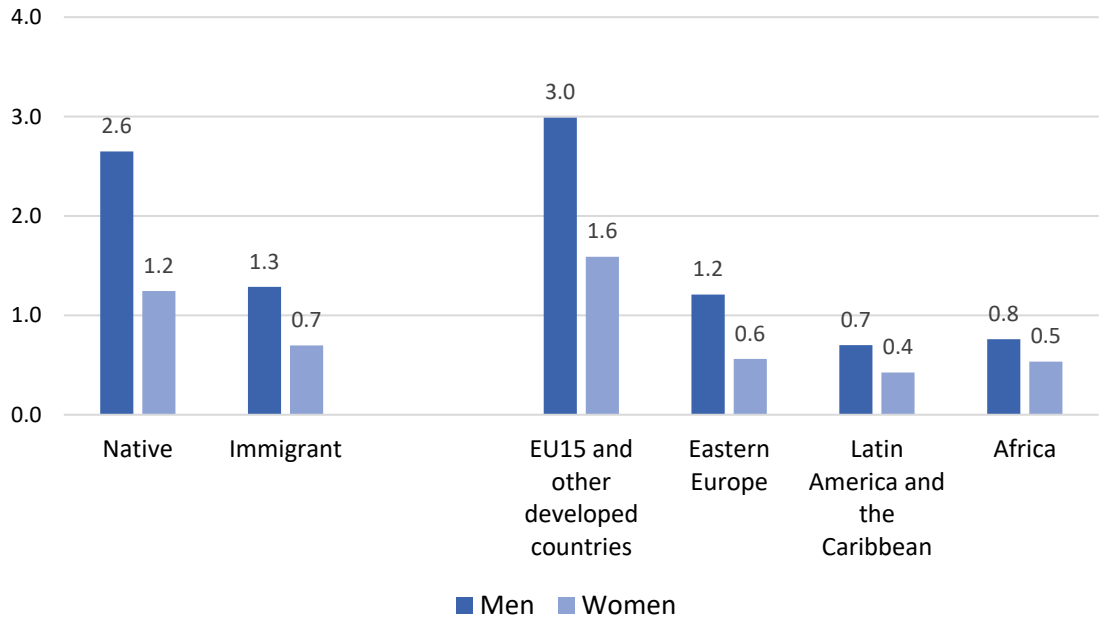
3. Preliminary descriptive results:

We have had access to the data very recently. This explains why at the moment only initial descriptive data are presented, but the research is in progress.

Preliminary results point to significantly higher premature mortality rates among natives than among immigrants in both men and women. Graph 1 also shows important differences by region of origin. The next step is to construct age-standardized rates to better control the effect of different age distributions in different groups. Graph 2 shows that there are no differences in the 15-40-year age group, but the differences begin to grow from age 40 onwards, especially among men while they disappear in women around age 65.

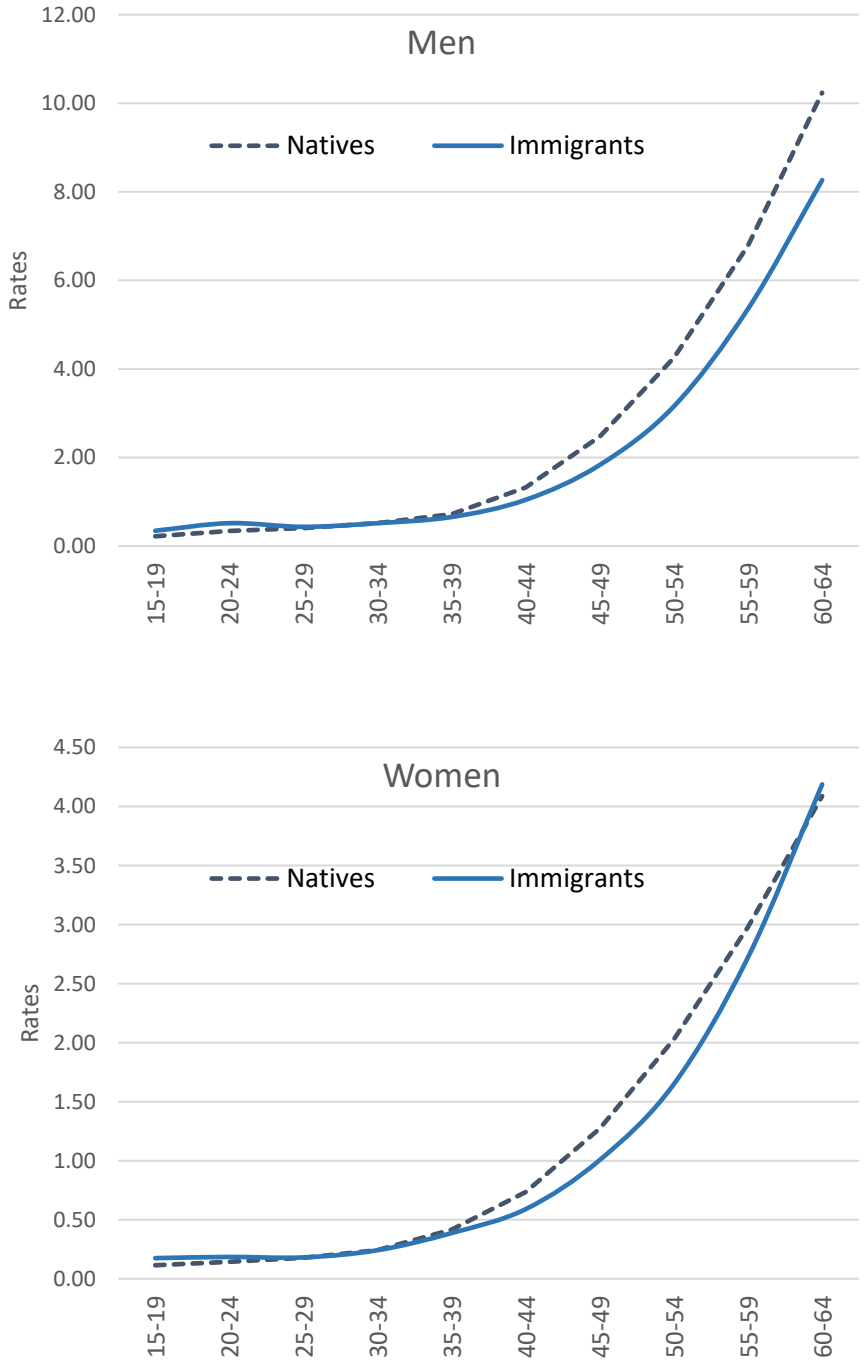
The analysis by causes of death (Graph 3) shows that premature mortality is higher in almost all major cause groups except for external causes, in which the immigrant population has higher rates. Because of this, those that cause the highest premature mortality (in both natives and immigrants) are diseases of the circulatory system and, especially, tumors.

Graph 1. Premature mortality rate (age 15-65) of native and immigrant population by sex and region of origin. Spain 2012-2015.



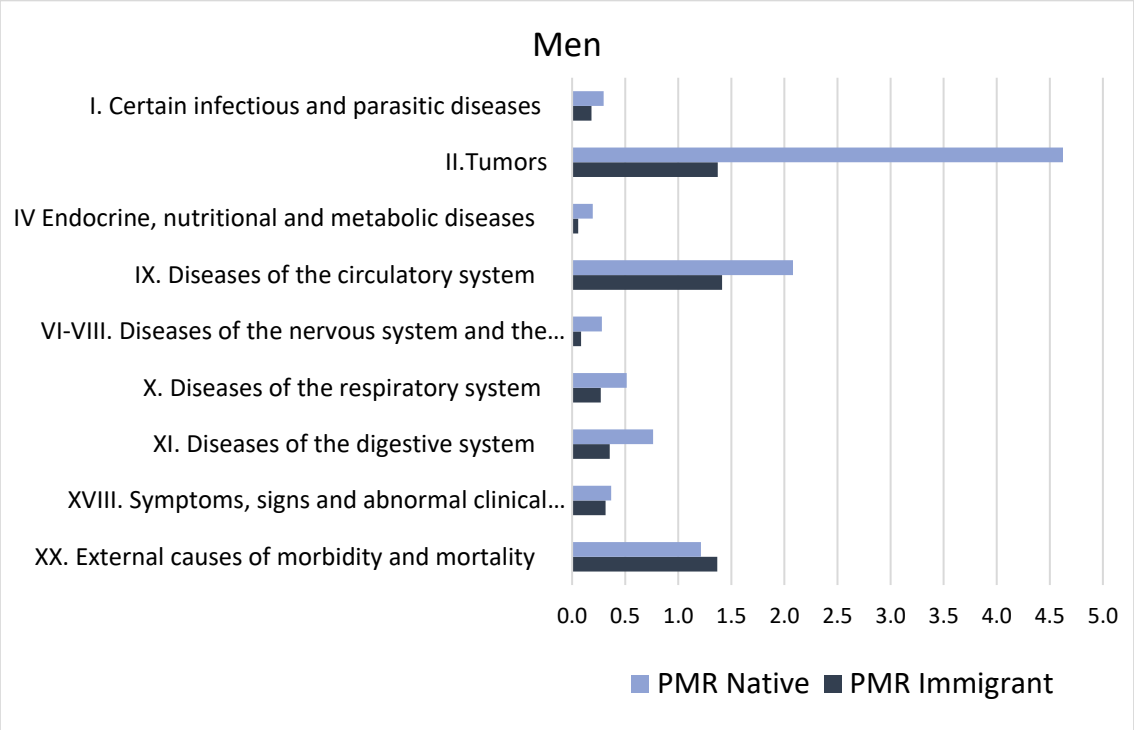
Source: Authors based on Statistics on Causes of Death of Spanish National Statistics Institute.

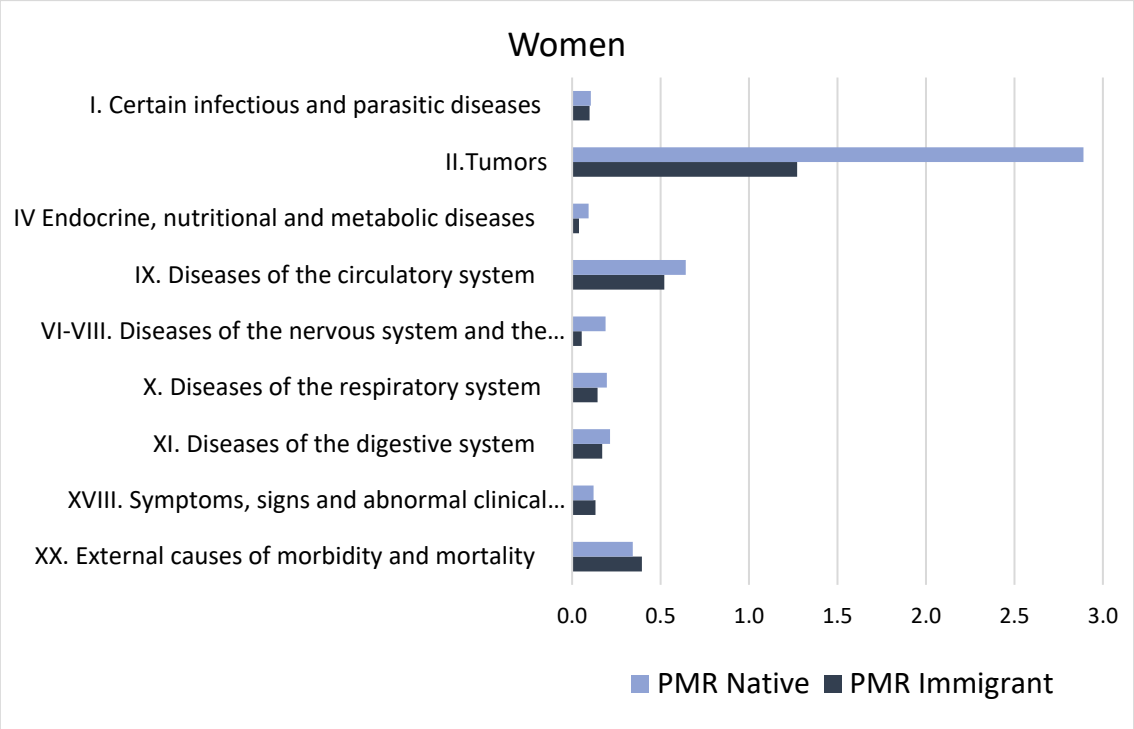
Graph 2. Standardized Premature Mortality Rate (15-65) of native and immigrant population by age and sex. Spain 2012-2015.



Source: Authors based on Statistics on Causes of Death of Spanish National Statistics Institute.

Graph 3. Specific premature mortality rates (age 15-65) by native and immigrant population and sex. Spain, 2012-2015.





Source: Authors based on Statistics on Causes of Death of Spanish National Statistics Institute.

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