

The “healthy immigrant” effect: does it exist in Europe today?

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ABSTRACT

Several studies, carried out mainly in the United States and Canada, have suggested that recent immigrants are generally healthier than native-born populations in spite of the fact that they frequently have a lower socioeconomic status and less access to healthcare services. This “epidemiological paradox” has been called the “healthy immigrant” effect and is usually attributed to a self-selection process prior to migration, “cultural buffering” and official health screening and employability in receiving countries. In this paper, we have evaluated the European scientific research into the existence of the “healthy immigrant” effect.

Key words: Immigration, Healthy immigrant effect, Europe

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INTRODUCTION

In recent decades, the changing economic and social landscape has determined a considerable increase in immigration into Europe. In some Western European countries, such as Great Britain, France and Belgium, immigration flows increased soon after the Second World War because of the decolonization of overseas territories and the European economic boom (1). Subsequently, the first decade of the 21st century saw large waves of migration both from within the European Union (EU) and from outside it. According to Eurostat, in 2008 the 27 EU Member States received about 3.8 million migrants (nearly 2 million of other EU nationalities and 1.8 million non-EU citizens) (2).

In the United States (US) the immigrant phenomenon began earlier than in Europe, and some level of immigration has been continuous

throughout American history; in particular, there have been two peak periods: from 1880 to 1924, the “Age of Mass Migration”, primarily from Southern and Eastern Europe, and the “Post-1965 Wave of Immigration”, primarily from Latin America and Asia (3, 4). As a result, numerous studies on migrant health have been carried out in North America (the US and Canada) and some of these have reported that recent immigrants tend to be in better health than the native-born population and immigrants who have lived in the country for a long time. This health advantage, called the “healthy immigrant” effect (HIE) or “healthy migrant” effect, can be regarded as paradoxical because many immigrants come from poor countries and have a lower socioeconomic status and less access to healthcare than native-born individuals (5-13). However, soon after immigrants arrive in their destination country, some of their initially positive health characteristics begin to

deteriorate to levels similar to those of the host population, probably as a result of a combination of environmental and behavioral changes (14, 15). For example, although obesity levels are considerably lower among recent immigrants to the US, they increase as the duration of residence lengthens and, after 15 years, approach those of the overall US population (16). Another possible explanation for this deterioration in health is exposure to some common environmental factors, such as air pollution (17-19).

Over time, the health of migrants appears to diminish, thereby giving rise to health disparities (20). This may be linked with a series of risk factors: psychological discomfort related to the condition of being an immigrant, lack of income, underemployment in risky occupations, degraded housing, absence of family support, different climate and eating habits, discrimination in access to health services and so on (21).

In order to provide a scientific description of the "healthy immigrant" effect in Europe, we performed a systematic review of the literature. This involved using scientific research systems, particularly PubMed, and examining official reports by the World Health Organization (WHO).

POSSIBLE EXPLANATIONS FOR THE "HEALTHY IMMIGRANT" EFFECT

There is not a univocal theory of the HIE; several possible explanations exist: immigrant self-selection, "cultural buffering", health screening by host country authorities prior to migration, and overestimation of health conditions/lack of data (18). It is very probable that these hypotheses should not be viewed as mutually incompatible, but rather as complementary (22).

The health selection hypothesis suggests that immigrants tend to be different from their compatriots who do not migrate (23, 24). Thus, immigrants may be more educated, less risk exposed, more entrepreneurial and better prepared to confront stressful situations (25). Jasso G et al. have elaborated a model of migration choice to explain this health selectivity. According to their model, the decision to migrate depends on the balance between the cost and gain of migration. The gain is the possible difference between income in the native country and income in the host country, and income is a result of the skill of the individual, the supply of labor and the country-specific price of that skill (19). Thus, health, being an important determinant of human

capital, could influence the decision to migrate. Good health, in turn, depends on a number of factors which facilitate migration, such as younger age, employable skills, better education and motivation to improve social and economic conditions (26, 27).

Since it is well known that workers are generally healthier than other members of society (the healthy worker effect) and that employment is one of the most important reasons for immigration, it is possible to affirm that the healthy worker effect selects healthy immigrants. However, these two epidemiological phenomena are closely interrelated (28, 29).

Selective migration also explains the so-called "Salmon bias" effect, or return migration, which is based on the idea that less healthy migrants may selectively return to their place of origin (30). Thus, the post-migration health status of successful migrants may be better than the post-migration health status of return migrants (31).

So-called "cultural buffering" attempts to explain the phenomenon in terms of the tendency of immigrants from less modern societies to have healthier lifestyles than native-born people (22, 32, 33). This tendency regards major risk factors, such as cigarette smoking, alcohol consumption, substance abuse and being overweight/obese (27). Social networks formed by immigrants upon arrival may be largely comprised of co-ethnics, creating an environment which reinforces positive health behaviors and provides psychological support (34). Furthermore, the immigrant community can provide mutual social aid.

Many countries have immigration and visa restrictions (35) and profiling immigrants according to health status is a widespread practice. Indeed, while some governments use screening programs to obtain information on immigrants' health status so as to undertake preventive and care strategies, others use screening to block entry (36). For example, a large number of countries require that foreigners be tested for Human Immunodeficiency Virus (HIV) prior to entry for temporary or permanent residence (36, 37). Since the medical screening process that immigrants must undergo before immigrating is not always applied to all persons, but restricted to evident medical cases at time of the arrival, some authors judge this explanation unconvincing (38). Another possible explanation for the HIE is the theory that immigrants may under-report their pathologic conditions during the immigration application process (18). Finally, knowledge of immigrants' health status is often limited by lack

of data and the exclusion of immigrants from surveys (such as censuses, screening programs, etc). Exclusion from these surveys has various reasons, such as a shortage of cultural mediators, difficulty in engaging migrants and the costs involved (39).

EVIDENCE OF THE “HEALTHY IMMIGRANT” EFFECT IN EUROPE

Few studies on the HIE have been carried out in Europe, and their results are often difficult to compare because of differences in methodological approaches and study populations (14). The majority of studies have compared the characteristics of a cohort of immigrants with a demographically similar cohort of natives in the host country (40-44). Others have tracked a cohort of immigrants over time in order to detect changes in health outcomes and characteristics or to compare recent immigrants with non-recent ones (44). A further possibility is to study the difference between recent immigrants and their non-immigrant compatriots (45, 46).

Several studies have compared patterns of all-cause and cause-specific mortality between international migrants and native populations. Belgian researchers investigated mortality differences between immigrants and the native population by conducting a 6-year follow-up of the entire Brussels population aged 25-55 years. This study showed that immigrants had a significantly lower risk of mortality than their locally-born counterparts, despite the fact that they frequently lived in poor accommodation and that their human capital and work status were lower. As the length of time spent in Belgium increased, the relative risk of mortality rose; however, this rise was non-significant even among those groups most likely to absorb the local culture (such as Moroccans and Turks) (44).

Razum O et al. tested the HIE by comparing all-cause mortality rates by age-group and sex of Turkish residents in Germany and German adults from 1980 to 1994. The age-adjusted mortality rate (per 100 000) of 25-65-year-old Turkish males living in Germany was 299 in 1980 and 247 in 1990, about half that of German males. The mortality of Turkish females in Germany was 140 in 1990, half that of German females. The mortality rates of Turkish males and females in Ankara (Turkey) were 835 and 426, respectively, in 1990. The authors reported that this difference in mortality could be partially explained by both

the self-selection model and the return migration process; the socially successful migrants remain in Germany (subjects with low mortality risk), while less successful ones return to Turkey even before an illness is manifested (45).

All-cause mortality was studied in Amsterdam among Dutch people and four immigrant groups: Mediterranean (Moroccans, Turks and Southern Europeans), Caribbean (Surinamese and Antilleans), descendants of immigrants from non-industrialized countries (such as Vietnamese and sub-Saharan Africans) and descendants of immigrants from industrialized countries (such as the US). The Dutch had the highest mortality rates, among both men and women. Men aged 50 years in the Mediterranean, Caribbean and non-industrialized groups had a higher life-expectancy than the natives. The same tendency was observed in women at the age of 50; the Dutch and the immigrants from industrialized countries had a shorter life expectancy than the other three groups. By contrast, previous surveys based on standardized mortality ratios have revealed high mortality among migrant populations. The authors concluded that the high life expectancy in these migrant groups was not really the result of good health but of artifacts, such as defects in mortality registration (47).

All-cause and heart-disease mortality rates were studied in eight immigrant groups in Sweden and in their native countries by means of data from the Swedish national register and WHO databases. The all-cause mortality risk, evaluated as incidence density ratio (IDR), proved to be lower among seven male immigrant groups - with an IDR 0.39-0.97 - and among six female immigrant groups (IDR 0.42-0.81) than in their corresponding countries of birth. The heart disease mortality risk was lower in male immigrants to Sweden from Norway (IDR = 0.84), Finland (IDR = 0.91), Germany (IDR = 0.84) and Hungary (IDR = 0.59) and among female immigrants from Germany (IDR = 0.66) and Hungary (IDR = 0.54) than in their native countries (48).

A follow-up study on mortality and cancer incidence in a cohort of 3 327 Vietnamese in England and Wales found far lower overall mortality rates among the Vietnamese than among the English and Welsh populations. The all-cause standardized mortality ratio was 64 (95% CI: 52-77) for Vietnamese males and 56 (95% CI: 44-71) for Vietnamese females. In both males and females, mortality due to ischemic heart disease and colorectal cancer were particularly low, as was breast cancer in females (40).

A recent study conducted by Manneschi G et al. compared the incidence of cancer diagnosed between 1998 and 2005 in two Tuscan provinces among three groups of subjects: native Italians, immigrants from highly developed countries and immigrants from countries with high emigration rates. Incidence rates among subjects born in countries with high emigration were statistically lower, in both men (151.2 per 100 000) and women (199.3 per 100 000), than in the Italian-born population (243.5 for men and 337.5 for women). By contrast, the rates recorded in subjects born in other developed countries did not differ significantly from those of subjects born in Italy (41).

Degrade A et al. reported lower death rates for almost all causes of death in immigrants (mostly Italians) than in natives in Ticino Canton, Switzerland, from 1991 to 1994 (42).

Cancer mortality was compared between 788 744 French-born subjects and 27 352 North African immigrants to France between 1979 and 1985. With the exception of Egyptian women, the migrant group displayed a significantly ($p < 0.001$) lower risk of all-site cancer: Moroccan men (adjusted relative risk [aRR]=0.6 [95% CI: 0.5-0.6]), Egyptian men (aRR=0.6 [95% CI: 0.5-0.7]), Algerian men (aRR=0.8 [95% CI: 0.8-0.8]), Tunisian men (aRR=0.8 [95% CI: 0.7-0.8]), Moroccan women (aRR=0.8 [95% CI: 0.7-0.8]), Tunisian women (aRR=0.8 [95% CI: 0.8-0.9]) and Algerian women (aRR=0.9 [95% CI: 0.9-0.9]) (43).

In a Dutch study on mortality among subjects affected by tuberculosis (TB), it was unexpectedly found that immigrants from highly endemic countries were less likely to die than native patients. This finding could be attributed to the selection process. Another explanation could lie in health screening, in that a large number of immigrants affected by TB may have been diagnosed in a relatively early phase of the disease, leading to a better outcome (49).

Other studies have used different approaches, such as birth outcomes, estimation of healthcare utilization rates, risk factors and health perception. Restrepo-Mesa SL et al. compared the birth weight of full-term newborns, from 2001 to 2005, between Spanish women and Colombian women who had emigrated to Spain. The Spanish mothers presented a higher risk of low birth weight (adjusted odds ratio [aOR]=1.89 [95% CI: 1.65-2.16]) and insufficient weight (aOR=1.49 [95% CI: 1.51- 1.57]) (50).

Another Spanish study, conducted in Barcelona in 2004, evaluated the rates of registered Spanish-

born and foreign-born adults who visited the emergency department. The emergency department utilization rate (adjusted by both age and sex) among foreigners was 38% lower than among Spanish-born residents. Indeed, the aOR for foreign-born versus Spanish-born residents was 0.62 (95% CI: 0.52-0.74). Moreover, the utilization rate was also significantly lower among foreign-born than Spanish-born residents in all specialties except minor emergency care and gynecology: surgery (aOR=0.51 [95% CI: 0.42-0.63]), traumatology (aOR=0.47 [95% CI: 0.38-0.59]), medicine (aOR=0.48, 95% CI: 0.38-0.59]) and psychiatry (aOR=0.42 [95% CI: 0.18-0.97]) (51).

A French retrospective cohort study compared Tunisian male migrants, French males born in France and Tunisian males living in Tunisia in terms of quality of diet (measured by Diet Quality Index-International - DQI-I) and nutrition-related non-communicable diseases. In all three groups the total DQI-I score displayed good diet quality, but immigrants to France had a higher score than the native Frenchmen in terms of variety, adequacy and moderation. Further, immigrants to France displayed a lower prevalence of overweight than the native French, a lower prevalence of type-2 diabetes and cardiovascular pathology than Tunisians living in Tunisia, and a lower prevalence of arterial hypertension and hypercholesterolemia than the two non-immigrant groups (46).

Nolan A documented differences among immigrants to Ireland and Irish natives in terms of self-assessed health status and limitations in daily activities. Immigrants were about 5% less likely to report fair or poor self-assessed health. However, the probability of reporting fair or poor health increased significantly as the time spent in Ireland increased (52).

CONCLUSIONS

The HIE has not yet been fully understood (18). Indeed, although a great number of papers, published mainly in the US and Canada, seem to suggest that the HIE exists, some authors deny that recent immigrants enjoy better health. For example, Gliberman S showed that there was no difference in the utilization of healthcare resources between immigrants and the native population at all ages (53). Dunn JR and Dyck I did not find any solid link between the characteristics of immigrants and their health outcomes (54). Moreover, the healthy immigrant effect is not evident among refugees. Indeed, refugees often display health deficits due to the living conditions

encountered in refugee camps, and might need special care and protections in a new country, particularly in their early stages of resettlement.

In any case, immigrants remain an important resource in terms of their entrepreneurial activity, consumer spending, tax payments, participation in the national labor force and contribution to socio-cultural diversity. As immigration to European countries has increased substantially and shows no indication of abating, immigrant health is becoming increasingly difficult to ignore.

As we have seen, the HIE diminishes as the time since immigration increases. In order to limit this decline, it is important to try to reduce socio-sanitary disparities (healthcare access, unprotected working conditions, etc).

Indeed, having analyzed several European studies, Bollini P and Siem H concluded that long-term residence in a host country leads to health deterioration among some immigrant groups as a result of poor living and working conditions (the "exhausted migrant" effect) (55). European Member States should identify principles and provide incentives to create effective migrant-sensitive and accessible healthcare systems that knowingly incorporate immigrant and minority needs into health financing, policy, planning, implementation and evaluation (56-58). Indeed, there is a need to potentiate health promotion, health care and public health services in support of immigrants, particularly in the short and the medium periods.

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