

Monitoring Migrants' Health Risk Factors for Noncommunicable Diseases **FREE**

Stefano Campostrini, Economics, University of Ca 'Foscari University of Venice

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Summary

Noncommunicable diseases (NCDs) have become the first cause of morbidity and mortality around the world. These have been targeted by most governments because they are associated with well-known risk factors and modifiable behaviors. Migrants present, as any population subgroup, peculiarities with regard to NCDs and, more relevantly, need specific information on associated risk factors to appropriately target policies and interventions. The country of origin, assimilation process, and many other migrant health aspects well studied in the literature can be related to migrants' health risk factors. In most countries, existing sources of information are not sufficient or should be revised, and new sources of data should be found. Existing survey systems can meet organizational difficulties in changing their questionnaires; moreover, the number of changes in the adopted questionnaire should be limited for the sake of brevity to avoid excessive burden on respondents. Nevertheless, a limited number of additional variables can offer a lot of information on migrant health. *Migrant status, country of origin, time of arrival* should be included in any survey concerned about migrant health. These, along with information on other *Social Determinants of Health* and *access to health services*, can offer fundamental information to better understand migrants' health and its evolution as they live in their host countries. Migrants are often characterized by a better health status, in comparison with the native population, which typically is lost over the years. Public health and health promotion could have a relevant role in modifying, for the better, this evolution, but this action must be supported by timely and reliable information.

Keywords: risk factors, migrant health, NCD surveillance, convergence, health promotion, big data, health surveys

Subjects: Special Populations

Epidemiological Transition and Migration

The new millennium began with substantial changes in many aspects of human daily life. The area of health is no exception: major changes have happened and are happening, modifying health levels and health profiles. If one observes the epidemiological transition from the beginning of the XIX century to the start of the new millenium, one can easily notice how patterns of morbidity and mortality changed completely over the years. The causes of death until the beginning of the XX century were mainly linked to infectious diseases, which

accounted for more than half of all the deaths, with limited differences from country to country. Noncommunicable diseases (NCDs) were the causes of less than 20% of the deaths, while in the early 21st century they account for around 90% of them in the European region, which leads this transition process. Transition that, anyway, is followed, with different paces and with different stages, by all the other regions of the world (WHO, 2016). The awareness of this scenario raised the attention on NCDs as the main focus of public health action. In 2011, the UN General Assembly (UN, 2012) adopted a political declaration on the prevention and control of noncommunicable diseases, acknowledging the global burden, recognizing it as a challenge of epidemic proportions, and, notably, targeting them via governments and societies, particularly by reducing risk factors and creating health-promoting environments. Although the Covid-19 pandemic has had an incredible impact on health systems, it has not significantly changed this pattern, and NCDs have remained, also in the tragic years of the pandemic, by far, the leading causes of morbidity and mortality. Moreover, research has shown how NCDs' presence in several Covid-19 infected patients has negatively affected the disease development, increasing both the probability of serious consequences and of death (Doraiswamy et al., 2021; The Lancet, 2020). The link between NCDs and communicable diseases is even stronger among migrant¹ populations (al-Oraibi et al., 2021).

It is well known that NCDs can be tackled by reducing known and well-defined risk factors. Much difference in disease prevalence, (avoidable) mortality, and other related indices (QUALY - Quality-Adjusted Life Year, DALY - Disability-Adjusted Life Year, etc.) among and inside countries can be directly explained by different prevalence of risk factors. Many of these are behavioral, acknowledged as the "big four": smoking, unhealthy diet, lack of physical activity, and excessive alcohol consumption. These are quite often linked to personal and contextual aspects, the so-called Social Determinants of Health (SDoH). From this information, the importance of public health action and, particularly, of health promotion to lower the prevalence of these risk factors is well recognized. These actions must be well informed through systems that assure a continuous monitoring of the situation (Campostrini & McQueen, 2005) to allow effective programming and evaluation.

In this already complex scenario, migration intervenes as a major, critical factor. As an effect of acceleration in globalization, climate change, and other factors (among these wars and despotic governments), new and increasing migration flows are present in most parts of the globe, creating opportunities but also posing multiple problems and issues. Migrant health is certainly one of these (Hanefeld et al., 2017; Rechel et al., 2011). Besides concerns about the control of infectious diseases (see, e.g., Kentikelenis et al., 2015) and the right to access health services (Jakab et al., 2015; Suphanchaimat et al., 2015), migrant health must also be considered in relation to NCDs and the related risk factors (Kunst et al., 2011). Particularly in countries in which the migration flow is changing the pattern of the populations, these aspects play a fundamental role in addressing public health and, more particularly, health promotion action related to cultural and societal patterns, which migration, obviously, influences.

Healthier or Unhealthier Migrants? The Risk Factors Parameter

In the literature, one can find apparently opposite views on migrant health when health outcomes are considered. Also, limited to the so-called economic migrants (persons traveling from one country to another in order to improve their standard of living, who account for the majority of migrants in most areas of the world), some research shows how migrants eventually present higher levels of mortality (see, for instance, Bos et al., 2007; Harding et al., 2008; Stirbu et al., 2006; Subramanian et al., 2009), while other researchers focused on how migrants, being a positively “selective” part of a population (those younger, stronger, and willing to leave for a better future), quite often present better health status upon arrival in comparison with the host population. For an insight into these aspects, see what is presented in “Convergence Theory and the Salmon Effect in Migrant Health” (Namer & Razum, 2018) to which one can also turn to for suitable references to the different migrant health theories presented there and only recalled here. It is important to highlight how many of these theories can be, eventually, related to risk factors and their evolution among migrant subgroups. This, consequently, will further support the importance of monitoring migrants' risk factors for health.

The theory of “healthy migrant” is quite understandable: persons who are sick or simply more fragile in terms of their health status will never (with a few exceptions due to major catastrophes or wars) think of migrating to another country. This selection process, combined with the younger age at which people typically start their migration, brings to host countries migrants with typically better health status compared to the average level of the host population. Moreover, quite often migrants come from countries in which behaviors are typically healthier than those of the host countries. In several countries, the economic development is quite often, and particularly since the '80s-'90s, linked to higher prevalence of risk factors such as obesity, lack of physical activity, risky alcohol consumption, and smoking; although the latter present relevant differences from country to country that originated the migration. The country of origin is a quite relevant and often neglected aspect in migrant health interventions: several studies (see, e.g., Leung, 2014) have shown how health levels among migrants can differ when considering the country of origin and, often, this is related to different behavioral risk factor profiles. If the average level of the migrant population is generally, at the moment of arrival, better than the host population, differences of risk factors among subgroups can be substantial (see, e.g., Campostrini et al., 2019). These are related to habits and attitudes developed in the country of origin, and this culture is “imported,” at least for the first years, in the migration process. Migrants from Muslim countries, for instance, will have very low prevalence of risky alcohol consumption, those from Asian nations very low prevalence of obesity and smoking, the latter typical also of migrants from Africa and particularly from the sub-Saharan countries. Quite often, migrants arrive with a relatively better health status not only because they are a “selected” group but also because they carry better behaviors in comparison to those of the hosting countries. Over the years, in the so-

called assimilation process, the situation can change, sometimes positively, negatively in other cases, or can remain substantially the same, as observed in some other situations (Bos et al., 2007). Contextual aspects are fundamental in this evolution.

One aspect to consider is that the assimilation process, as stated by the so-called convergence theory (see, again, Namer & Razum, 2018, for further insights), quite often takes place not within the general population of entrance, but with lower class groups with which most migrants share living conditions. In relation to risk factors, migrants tend to assume the same behaviors as of these groups, converging toward a prevalence of risks that is much higher than that of the average population. Consequently, and not surprisingly, this can result in even worse health outcomes (in terms of morbidity and mortality) in comparison with the rest of the native population, even if the migrants started with better conditions. In the general statistics, these negative health outcomes in some cases can be hidden by other inverse selective migration processes such as the so-called salmon effect: migrants who feel weaker return to their native homes at the end of their lives, leaving in the host countries only those who succeeded better and consequently are in better health (Namer & Razum, 2018). These selection processes are difficult to evaluate and can vary among countries and over time. The great economic recession, for instance, has also influenced some migration of return among some European countries, increasing the number and the kind of returning migrants (Zaiceva & Zimmermann, 2016). In some cases, what may be observed is the opposite of the salmon effect: migrants who succeed economically in the host countries return to their country of origin, leaving among migrant groups (financially and socially) “weaker” persons who also present worse health profiles. Nevertheless, these selection processes can be theoretically relevant in a broader public health perspective. It should be considered that since the start of the new millenium, western countries have seen small numbers of migrants going back to their country of origin. For this reason, it is likely that the observed migrants' differential mortality is mainly due to other factors, and, among these, the convergence of behavioral risk factors to those of the lower strata of population appear the most likely (Stronks & Kunst, 2009).

The convergence process appears quite clear and can be studied when data are available. As an example, a graph from an Italian study is shown here (see Figure 1). Data come from the Italian PASSI (acronym for “progresses in local health units”), a surveillance system that collects monthly information about population health and risk factors (Baldissera et al., 2011; analyses about migrant health based on earlier periods of data have been published in Campostrini et al., 2019). Among the socio-demographic variables, the system collects information about migration status. It is quite clear, from the data of this example, how the convergence process might work: at the time of arrival migrants present a much better situation in comparison with the host population. Here are data on current smoking and an indicator of mental health (for more information on the latter, see Gigantesco et al., 2015), but most of the other risk factors present the same pattern (Campostrini et al., 2019). In the analysis, data have been standardized by age and sex. Much younger migrants, as expected, (using non-standardized data) present differences even more relevant: migrants near their arrival (less than five years) present a prevalence of smokers of 19%, converging, when

considering migrants with more than 10 years in the country, to the 26% measured among the Italian general population. Similarly for mental health: migrants at less than five years from their arrival present a prevalence of depression symptoms of 3.3%, while in the “over 10 years” group the prevalence is 5.3%, almost that of the Italians (6.1%).

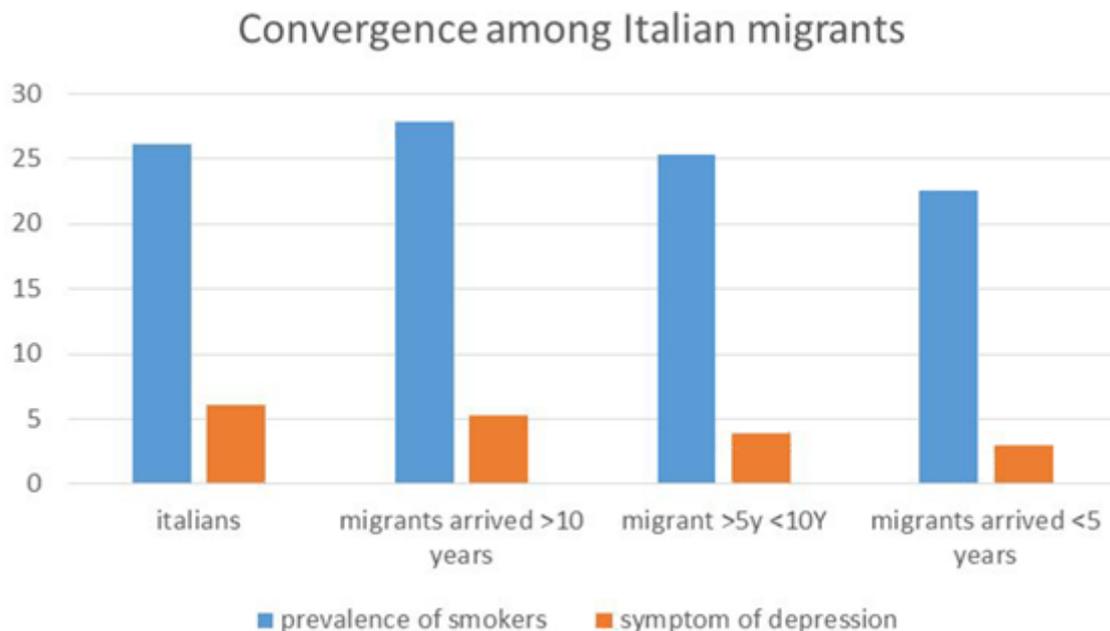


Figure 1. Prevalence of smoking and symptoms of depression in Italy by citizenship (Italian and foreign) and time of arrival.

Source: PASSI surveillance system (ages 18–69), data standardized by age, (2014–2017; n = 138 199; foreigners 7 297, 5.3% of all respondents).

Monitoring Migrants' Risk Factors

We have seen how important risk factors can be when considering different aspects and theories of migrant health. Given this, one could wonder why, in many of the studies presented in the literature, risk factors have not been considered. The answer could be fairly simple: data availability. Although migration status is acknowledged as a relevant aspect in population health, not many of the extant surveys on risk factors and health have collected information on respondents' migration status. Moreover, when this has been done, it has been limited to very scant information, typically citizenship, often measured only by a dichotomous variable—foreign citizenship: yes/no.

This lack of information (Bozorgmehr et al., 2019; Pottie et al., 2017; Rechel et al., 2013) is not only limiting studies on the connections between migration and health, but also does not offer sufficient information for good public health evaluation, to more appropriately target interventions addressing this particular and relevant part of the population (Rechel et al.,

2011). Therefore, different approaches for monitoring risk factors will be briefly presented, followed by a discussion on how relevant information on migrant health can be collected, concentrating on which should be the key variables to measure.

Monitoring Risk Factors: The Surveillance Approach

Information on risk factors related to noncommunicable diseases is now collected almost everywhere through recurring national health surveys. Definitions of the main risk factors are quite standardized to allow international comparison. If these data collections allow the production of useful information to understand the level of the phenomena of interest, little can be ascertained about the actual dynamics causing the evolution of these phenomena. While in some official documents, the word surveillance is used for a recurrent survey (Riley et al., 2016; WHO, 2005), as clearly stated in some literature (see Campostrini et al., 2015), surveillance has some particular characteristics that set it apart from other monitoring systems. The first one is that the data collection in surveillance must be rather frequent if not continuous, while recurrent health surveys used for a broader monitoring are conducted in many countries once every four to five years. Before examining the specificity of migrants' risk factor monitoring, it is worthwhile to briefly recall some key concepts about risk factors surveillance.

Since the 1980s the United States has been operating a system that collects data on risk factors almost continuously to better understand their changing evolution; it is called the Behavioral Risk Factor Surveillance System (Remington et al., 1988). The concept of surveillance is crucial (Campostrini & McQueen, 2005), particularly when this information is thought to be used for public health purposes. Similar to infectious disease surveillance, for risk factors, too, the need is to have reliable and *timely* data not only to maintain observance of their levels, but also to better understand when and how they change over time. Following the US example, risk factor surveillance systems have been developed over the years in several other countries, thanks also to a network that helped their diffusion, sharing methodological and theoretical knowledge about this approach (Campostrini et al., 2009, 2015).

Risk Factor Surveys and Surveillance, and Migrant Health

Given the relevance of migrant health, since the turning of the century information about respondents' citizenship has been added to many current health surveys and surveillance systems. Unfortunately, this relies quite often only on a single variable, asking if respondents have a foreign citizenship. This certainly provides very limited information: more in-depth measurements on migrants and on their migration process can be very useful to judge migrant health and to better address health policies. As an example, Table 1 reports data from the Italian surveillance system, some of which has been presented in the section "Healthier or Unhealthier Migrants? The Risk Factors Parameter." Several examples here have been taken from the Italian PASSI surveillance system both because of data availability, particularly on

migrants (see previous studies, e.g., Campostrini et al., 2019), and for the fact that this system is considered one of the best practices for risk factors—NCDs surveillance in Europe (WHO, 2015).

Collecting routinely some further information about migrants, one can appreciate how much more informative a system like this can be. For example, one can appreciate how the *country of origin* of migrants makes a great difference in assessing risk factors, as already theorized in the literature (see, e.g., Subramanian et al., 2009). Let's take the case of smoking. Table 1 shows how prevalence is similar among migrants and Italians but when one breaks down migrants by their country of origin, prevalence appears to be very different, with some groups (for example, Eastern European) reporting a much higher prevalence compared to Italians, and some others (sub-Saharan Africans, for instance) with a prevalence less than half in comparison with Italians.

Table 1. Comparison Between Italian and Foreign-Born Populations Resident in Italy (Ages 18–69) Interviewed in the Surveillance System PASSI (2014–2017; n = 138 199) by Selected Health-Related Variables and Country of Origin (Showing Only Those With the Better and Worse Situation). Confidence Intervals at 95%

	Italian *	CI	Migrants *	CI	Better	%	CI	Conditional OR**	CI	Worse	%	CI	Conditional OR**	IC
Perception of health status (good+very good)	69.7% (69.9%)	69.4%– 70.1% (69.6%– 70.2%)	77.8% (74.5%)	76.7%– 79.0% (73.1%– 75.9%)	Sub-Saharan Africans	81.2% (78.2%)	76.6%– 85.1% (71.5%– 84.9%)	1.65	1.21– 2.24	Italians	69.7% (69.9%)	69.4%– 70.1% (69.6%– 70.2%)	-	-
Symptoms of depression	6.1% (6.1%)	5.9%– 6.3% (5.9%– 6.3%)	4.8% (5.0%)	4.3%– 5.4% (4.3%– 5.6%)	Asians	2.5% (3.3%)	1.5%– 4.0% (1.6%– 5.1%)	0.36	0.22– 0.60	Americans	6.4% (5.2%)	4.6%– 8.8% (3.4%– 7.0)	0.89	0.62– 1.26
Prevalence of smokers	26.0% (26.1%)	25.7%– 26.4% (25.8%– 26.4%)	25.5% (26.1%)	24.3%– 26.7% (24.8%– 27.5%)	Sub-Saharan Africans	9.7% (10.7%)	7.1%– 13.3% (5.9%– 15.4%)	0.21	0.15–0.30	Foreigners from EU	34.7% (35.1%)	32.3%– 37.1% (32.4%– 37.9%)	1.43	1.28– 1.60
Prevalence of higher risk alcohol drinker	17.1% (17.1%)	16.8%– 17.3% (16.8%– 17.3%)	16.0% (16.3%)	15.0%– 17.0% (15.2%– 17.5%)	North Africans	7.2% (7.0%)	5.3%– 9.7% (4.7%– 9.3%)	0.35	0.25– 0.49	Americans	21.1% (23.6%)	17.8%– 24.9% (19.1%– 28.0%)	1.54	1.23– 1.94

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	Italian *	CI	Migrants *	CI	Better	%	CI	Conditional OR**	CI	Worse	%	CI	Conditional OR**	IC
Prevalence of overweight and obese	42.5% (42.3%)	42.1%– 42.8% (41.8%– 42.8%)	40.5% (45.5%)	39.1%– 41.8% (42.8%– 48.1%)	Asians	34.2% (34.3%)	30.2%– 38.3% (29.8%– 38.8%)	0.71 0.86	0.58– 0.86	North Africans	46.6% (51.1%)	42.6%– 50.6% (47.0%– 52.7%)	1.11	0.93– 1.33
Prevalence of a correct attendance to preventive cervical cancer screening	79.6% (79.5%)	79.1%– 80.0% (79.0%– 80.0%)	74.2% (74.2%)	72.5%– 75.9% (72.2%– 76.1%)	Americans	82.5% (83.0%)	77.1%– 86.8% (78.2%– 87.8%)	1.29	0.91– 1.83	North Africans	62.2% (62.0%)	56.2%– 67.8% (54.0%– 70.0%)	0.59	0.46– 0.77

Note: *In brackets are prevalence standardized by gender and age.

**Conditional ORs are computed through a logistic regression including the following variables: gender, age, economic status (difficulties to get by at the end of the month), citizenship • Italians have been taken for reference in ORs computation.

As seen in the example presented in the section “Healthier or Unhealthier Migrants? The Risk Factors Parameter,” another important information to be collected, and rarely done, is about migrants’ length of stay. By ascertaining this information, it is possible to understand how migrant groups change their behaviors, positively or negatively, once they assimilate in the host country. When reached by health promotion programs appropriately targeted, migrants can assume good attitudes that they “learn” in the host countries. For example, take the case of access to preventive services as observed in the quoted Italian study (Campostrini et al., 2019). Data shows that, on the contrary of what is reported for risk factors, quite often migrant persons overall present a much lower use of preventive services. Nevertheless, when data are broken down by the variable “time of arrival,” one can see how, in most of the migrant subgroups, if negative differences were high for “newcomers,” these disappeared when later migrants were considered who arrived in Italy more than 10 years ago, as Figure 2 clearly shows.

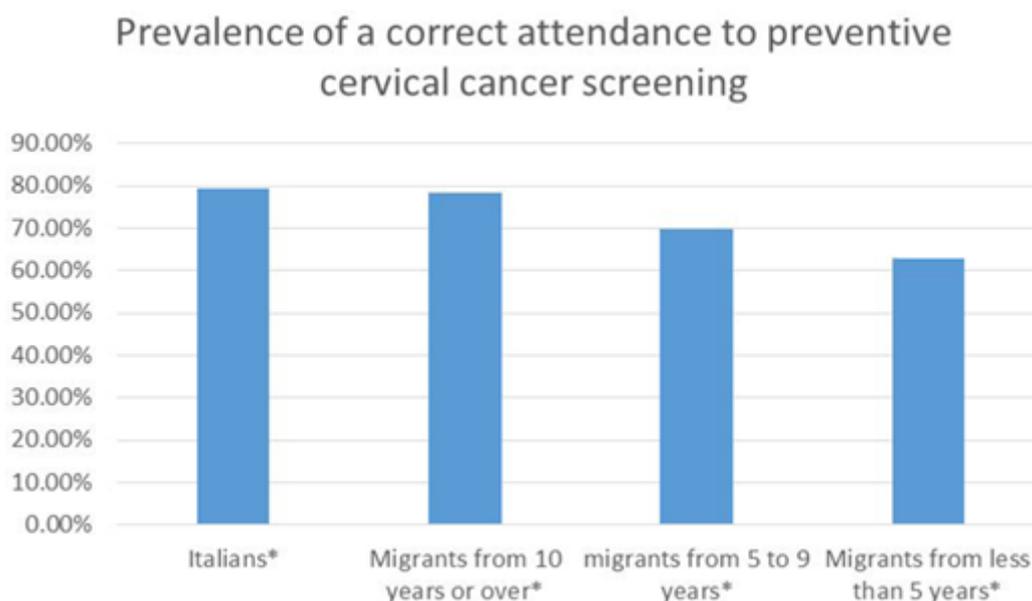


Figure 2. Prevalence of correct attendance to preventive services in Italy by citizenship (Italian and foreign) and time of arrival.

Source: PASSI surveillance system (ages 18–69), data standardized by age, (2014–2017; n = 138 199; foreigners 7 297, 5.3% of all respondents; analyses limited to women, who account for around 50% of the sample).

Key Variables for Monitoring Migrant Health

Existing survey systems can meet organizational difficulties in changing their questionnaires. Moreover, the number of changes in the adopted questionnaire should be limited for the sake of brevity to avoid excessive burden on respondents. Nevertheless, a limited number of additional variables can offer a lot of information on migrant health. Here are what may be considered the key variables based on the recent relevant literature (Table 2).

Table 2. Key Variables to Include for an Informative Migrant Health Monitoring

Variable	Reasons for Inclusion
Migrant status	Homogeneous definition should be adopted. Country of birth and citizenship are quite often considered good proxy*
Country of origin	Many studies have shown how risk factors among migrants are highly linked to their country of origin
Time of arrival	To understand how the assimilation process changes migrants' behaviors
Other SDoHs	Migrants' assimilation is often related to a combined effect with other Social Determinants of Health
Time	In a fast-changing world the situation can change very quickly; it is important to keep the observation over time
Access to health services	Research has shown how migrants could have difficulties in access to health services, particularly the preventive ones

Note: *Following definitions of IOM (IOM, 2020), both country of birth and citizenship can help in defining the immigrant status. It should be noted that this definition does not include among migrants the so-called second-generation migrants, although these, for all that is discussed here, can be an interesting group to analyze.

As for the *migrant status*, ideally, one would like to know all the history of migration to better understand phenomena like assimilation, integration, etc. This would require several questions, useful at the individual level but perhaps not so useful when the analysis is conducted on aggregates, for which proxy indicators such as country of birth or citizenship can offer sufficient information. *Country of origin* and *time of arrival* have already been discussed: their importance cannot be neglected and should be included in any survey concerned about migrant health.

Then, if not already collected, information on some key *social determinants* is fundamental to understand the assimilation process and possible exclusions and fragilities that migrants encounter in their daily life. Processes always happen in a *context*; thus, contextual information can offer better understanding of health consequences for migrants.

Also, *time*, the relevance of which has already been discussed, is the essential variable to understand the dynamics of the observed processes. This salient variable makes surveillance systems much more informative than systems that rely only on repeated surveys at large time intervals. The science of analysis of data over time clearly emphasizes the importance of time in a data collection process. Finally, much research has shown that *access* (partially independent from availability and payments) is a key variable that can influence migrant health (O'Donnell, 2018). For some key health services, it is fundamental to know, at least, how much these are used by migrant subgroups.

Limitations of Current Existing Risk Factor Surveys and Surveillance

Existing surveys are powerful tools for collecting data on migrant health (Levecque et al., 2014), but so far they have not been sufficiently used for this purpose. Nonetheless, even small changes in present-day questionnaires, with a few further questions on migrants' conditions, could provide highly significant information. Unfortunately, even these limited changes still will result in limitations in providing good information on migrant health. There are also language barriers that limit the participation of migrants in these surveys. Of course, this varies from country to country and among migrant groups. Nevertheless, it is quite understandable how, just because of the language, in a survey addressed to the general population only migrants relatively more integrated are included. Certainly, for instance, illegal migrants will not participate in these kinds of surveys. Taking again as example the Italian surveillance system, in this it has been estimated that the surveys were capable of involving 75–80% of the officially registered migrants in Italy (Campostrini et al., 2019) and, by design, none of the illegal migrants or refugees. These anyway represent numerically a small minority, estimated at around 5–10% of all migrants (Vogel et al., 2011). However, great differences may apply for different surveys and different countries; to the best of our knowledge no study has yet addressed these aspects.

Acknowledging these limitations, existing surveys and surveillance systems can be highly informative for “general” public health programs, particularly related to behavioral risk factors containment, since these are anyway typically targeted to the more integrated part of migrants who are also capable of answering these surveys. Instead, for more specific programs targeted to migrant subgroups (recently arrived, refugees, etc.), more in-depth studies are needed, based on specific approaches (see, e.g., de Vito et al., 2015). Quite often, these rely on multilanguage questionnaires with data collection favored by cultural mediators.

New Approaches to Surveillance and Risk Factors Monitoring

Surveillance uses the typical tools of social research. Since the 1980s, telephone surveys have been a widely used approach in most countries, but in recent years this approach has shown several limitations in its application, starting from declining response rates to a changed perception and attitude toward “telephone calls,” particularly among the younger generations.

Now smartphones are rarely used for telephone calls; nevertheless, they collect and produce an incredible amount of data about people's behaviors (and risk factors). At least about some. Smartphone data cannot tell us how much people drink, but we can know how much a person moves and, when connected to other devices, put this in relation with his/her weight and other physical measures. Notably, these sources collect data continuously allowing in this way a real (risk factor) surveillance (Balicer et al., 2018). The same presence and activities on internet social networks can be sources of information, as well as Google search and other activities on the web.

Health risks-related big data, collected in this way, present evident limitations: quite often they refer to a selected part of the population, and often privacy issues limit their use and the possibility of data linkage among different sources that could be very useful for better knowledge and understanding. Still, particularly when traditional data sources start to experience difficulties in their application, these can become, and certainly will become, valuable sources of information, including about migrant health. Further possibilities for information could come from advanced technologies in data science for reading and making sense of these kinds of data. The development of blockchain technology (Bhattacharya et al., 2019) and artificial intelligence (Drydakis, 2020) seem very promising in this regard, including for the specific field of migrant health.

Final Remarks: Implication for Public Health

In a globalized and fast changing world, migrant health has become in several countries one of the key concerns to address in public health because migrants, in many countries, have started to be a numerically relevant part of the resident population (e.g. in Europe in 2020 more than 5% of the resident population were migrant, but in many European countries this percentage is over 10%, with the first two being Sweden with 26% and Norway with 18%) and because they bring peculiar characteristics, sometimes more linked to their origin rather than to their migrant condition. Public health action must recognize the peculiarities linked to addressing multiethnic and multicultural societies. Among these, behavioral risk factors play a key role for migrant health in the present and in perspective. How the process of “integration” (assimilation) is carried out can be a key aspect for migrant health. In this dynamic, public health and health promotion can be either spectators or active agents. Taking the first track, the end point is already defined. As Kristiansen and colleagues presented (Kristiansen et al., 2007, in Figure 3), strain and losses and the conditions in the recipient country may eventually influence negatively, resulting in higher levels of morbidity, and, at the end, mortality.

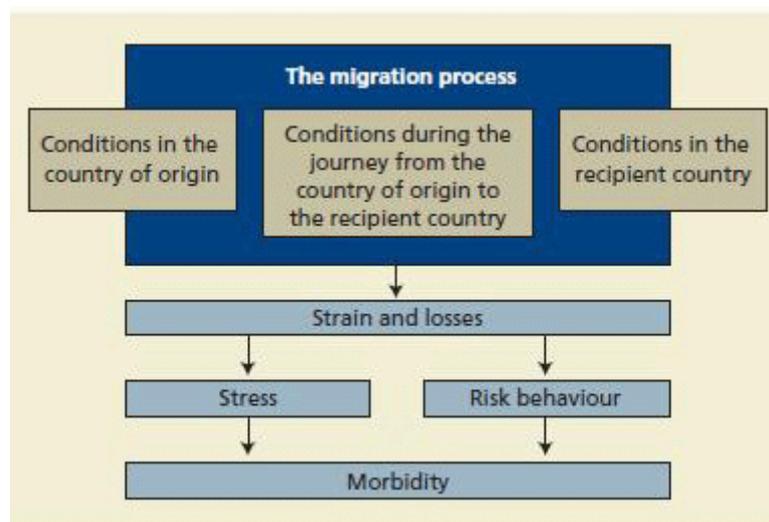


Figure 3. The influence of the migration process on migrants' morbidity according to Kristiansen et al.

Source: Kristiansen et al. (2007).

However, there is another possible, alternative, track: relying on the better health status and on the typically better healthy behaviors brought from the country of origin, migrants could maintain, if not gain, a better health (Figure 4). For this purpose, specific health promotion programs should be targeted, and, from what was observed in several researches, differentiated for the country of origin. More tailored health promotion interventions are not only an issue of addressing linguistic problems, but also an issue of cultural mediation. The aim of such interventions should be that of favoring an assimilation process that selectively maintains healthy behaviors and provides the conditions for changing risk behaviors, particularly, giving all migrants access to health services and all the other opportunities that can promote a better health. Juárez et al. (2019) discuss, for instance, how much relevant could the "Health in All Policies" approach be for migrant health.

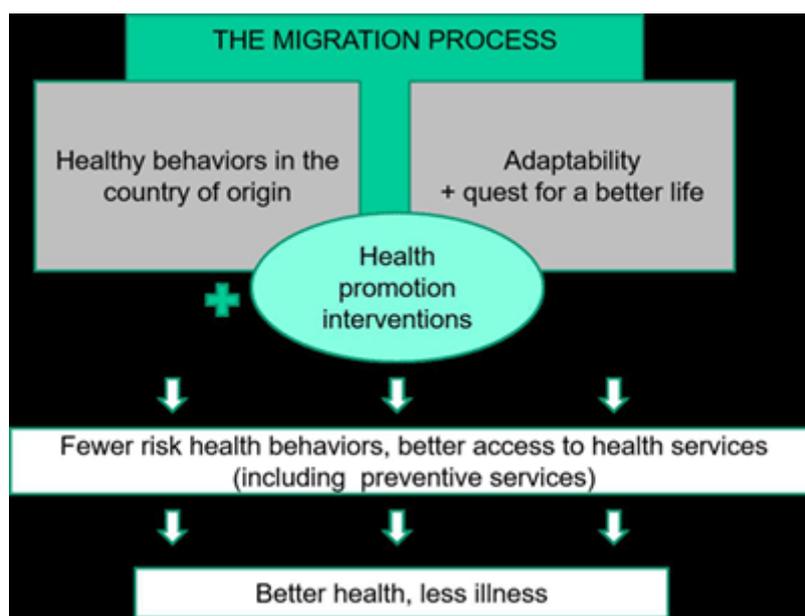


Figure 4. An alternative scheme of migrant health evolution: The "healthy migrants" and a possible way forward of maintaining better health.

If the need for well-targeted interventions to sustain migrant health is evident, it is also evident that these interventions should be based on timely and specific information. Existing survey systems, with a few adaptations, can be relevant sources of such information, as well as many of the "new" data sources. It is important, anyway, to consider a few further variables on the migration conditions in addition to the simple and very little informative status of "foreigner."

Limitations

This article emerges from research and studies mostly based on “western” literature and considering mainly migration to “western” countries. Nevertheless, we believe that the theoretical framework could be applied to any migration, including inside different regions and among different countries. Anyway, differences among migration processes in the different regions of the world in relation to NCD-related risk factors merit further research.

Further Reading

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Notes

1. The International Organization for Migration (IOM) defines a migrant as “a person who moves away from his or her place of usual residence, whether within a country or across an international border,” although it specifies that this is not a legally recognized definition among countries, while that of an immigrant is more legally shared as “a person who moves into a country other than that of his or her nationality or usual residence, so that the country of destination effectively becomes his or her new country of usual residence” (IOM, 2020). Here, we will generally refer to the second definition: persons moved into a country different from their country of birth and/or nationality.

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