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Mental Health in Immigrants Versus Native Population: A Systematic Review of the Literature

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A B S T R A C T

The relationship between psychopathology and migration presents unresolved questions.
Objectives: To determine whether there is a higher incidence of mental illness among immigrants, to describe the nosologic differences between immigrant and native populations, and to identify the risk factors involved of immigration.
Methods: A systematic review was conducted using the PubMed, Science Direct, ISI, Scopus, Psycinfo, Cochrane, and Cuiden databases. The search strategy was conducted using the MeSH thesaurus for the controlled terms "mental disorders," "mental health," "transients and migrants," "immigrants," and "epidemiology." The quality of the articles was analyzed by using the Equator Guidelines, following checklists according to the methodological design of the studies by two independent reviewers.
Results: From a total of 817 studies found, 21 met the inclusion criteria. Out of the 21 studies selected, 13 showed a higher prevalence of mental illness.
Conclusions: Migration represents a major challenge, but it does not lead exclusively to mental distress. Immigrants experience more problems in depression, anxiety, and somatic disorders, pathologies related directly to the migration process and stress suffered. Resources should be oriented to primary and community care.

A total of 232 million people live away from their country of origin (United Nations, 2013). They are immigrants, refugees, exiles, without papers, or with documentation—in other words, international migrants. They have something in common: they must overcome the difficulty of adapting to a new culture and, hence, being accepted by the group.

The migration process can be induced by expulsion factors (war, hunger, or poverty) and attraction (the acquisition of or improvement in a job post or freedom to pursue political or religious beliefs, among others). Of course, the reason someone emigrates determines both the migratory process and the health state throughout it. In the destination country, the immigrant can find language, administrative, and cultural barriers hindering his or her access and adaptation to the new social context. These barriers lead to unstable employment and economic and social situations and might contribute to increased vulnerability of the immigrant's state of health (Rivera, Casal, Cantanero, & Pascual, 2008). Socioeconomic differences, motivation, and the difficulties of the migration process itself determine the impact on the immigrant's health.

An old question suggests a relationship between immigration and pathology and whether healthier people emigrate or those already affected by mental illness. Initially, the existence of a kind of positive Darwinian selection in the migratory processes was proposed, that those healthier and prepared subjects, ready to leave harsh life conditions behind, emigrated. However, as early as 1932, Odegaard developed the hypothesis of selection, suggesting that people with a genetic predisposition to develop mood disorders could develop strong links in their countries of origin and would be less likely to migrate than people with a predisposition to schizophrenia. In the 1970s, discussions proposed a negative selection of migration. Studies of immigrants in the United Kingdom confirmed that schizophrenia rates of immigrants were much higher than those found in the countries of origin (Murphy, 1997). Subsequently, research carried out in Denmark defended this idea (Mortensen, Cantor-Graae, & McNeil, 1997), which also was confirmed in Australia, regarding suicide (Burvill, 1998). Other works, focused on Mexican migrants to the United States (Vega, Zimmerman, Warheit, & Gil, 2002) and Hong Kong Chinese (Davis & Katzman, 1998), argued that immigrants had better mental health than their compatriots who remained in their countries of origin.

Classic meta-analysis on the prevalence of schizophrenia and mood disorders among immigrants describes a diverse overview of results. Thus, Cantor-Graae and Selten (2005) concluded, after a review of

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Table 1
Inclusion Criteria.

	Inclusion criteria	Exclusion criteria
Type of study	Epidemiological studies: cross-sectional study, longitudinal, prospective, and/or retrospective	Qualitative, mixed, and conceptual analysis
Language	English and Spanish	Publications in languages other than English and Spanish
Publication date	January 2009 to February 2014	Publications prior to 2009
Age section of the study population	Includes the entire population regardless of age group	No exclusion criteria
Sine qua non condition	Studies that compare the immigrant population with the native population of the country of destination	Studies with exclusive samples of native and immigrant population
Type of publication	Scientific articles; full text	Incomplete publications, grey literature, manuals, sources

Resource: In-house production.

the studies carried out between 1977 and 2003 in English, that the second generation of immigrants exhibited more risk of developing schizophrenia than the preceding generation. The authors emphasized that a history of personal and family migration contributed to a significant risk factor for schizophrenia. They attributed a decisive role in the etiology of this psychosis to the adversity immigrants find in their psycho-social integration.

Swinnen and Selten (2007) pointed out that there was no conclusive evidence of an increase in the risk of bipolar disorder, depression, or mood disorders in general among the migrant population. In fact, contrary to Odegaard's hypothesis, the authors found a slight increase in the risk of mood disorders among immigrants, compared with the risk of developing schizophrenia. Ultimately, the relationship between psychopathology and migration presents worthwhile questions to examine.

The purpose of this review is to examine the current research to clarify whether there are differences in mental health between immigrant and native populations and to determine how to allocate resources and improve mental health care for the immigrant population. We set out four specific objectives: to determine which are the most prevalent mental pathologies among immigrants; to identify nosologic differences in the native population; to analyze the main risk factors in the deterioration of the mental health of this population; and, finally, to establish guidelines to manage the distribution of resources and mental health care.

METHODS

A systematic search of primary studies was conducted between February and March 2014.

Search Strategy

The search strategy was conducted using the MeSH thesaurus for the controlled terms “mental disorders,” “mental health,” “transients and migrants,” “immigrants,” and “epidemiology,” using the Boolean operator “AND.”

Seven electronic databases (PubMed, Science Direct, ISI, Scopus, Psycinfo, Cochrane, and Cuiden) were used to identify scientific articles published from January 1, 2009, through February, 2014.

Selection of Studies

Of the studies found, only those that met the inclusion criteria were included, as shown in Table 1.

Two reviewers independently chose the potentially eligible articles after reading the titles and abstracts. Studies that met the specified selection criteria were read completely and evaluated for their ultimate inclusion.

Data Selection, Evaluation of Quality, and Synthesis

After determining the articles to include, required data for analyzing the studies were introduced in the evidence tables to classify the information.

The quality of the articles was analyzed by using the Equator Guidelines, following checklists according to the methodological design of the studies:

- Observational Studies: STROBE *(Strengthening the Reporting of Observational Studies in Epidemiology)* (Von Elm et al., 2007).

Discrepancies and doubts regarding the incorporation of certain studies into the review were resolved by means of the participation of a third reviewer.

A joint statistical analysis could not be carried out for the data due to the great variability in the tools and strategies of measurement used. A narrative analysis was therefore performed.

RESULTS

Of the 817 studies initially found, all citations were imported to a database to eliminate any duplicates ($n = 349$), yielding 468 articles for the initial analysis. After reviewing the titles and abstracts, 66 items were rejected because they did not compare the incidence of immigrants' mental illness with that of the native population but, rather, with that of their compatriots who did not migrate, to immigrants from other origins, or to refugees. In this first analysis, the most reasons for rejecting items ($n = 345$) were that they were unrelated to the topic for study; they analyzed the validity of measuring instruments; they focused on the experiences of mental health professionals who treat immigrants; they were not specifically linked to mental health, and/or they analyzed the terminology immigrants or natives used to refer to mental problems. Fifty-seven potentially relevant articles were selected. Of these, seven were ruled out because we failed to get the full article. Finally, of the 50 articles remaining and based on the inclusion and exclusion criteria, we kept only 21 studies, which were described in detail (Fig. 1). Four studies were excluded for qualitative design; two were case studies; six were written in a language other than English or Spanish (French, German, Chinese, or Italian); five manuscripts were not directly related to mental health diseases; two were written prior to 2009, and 10 did not meet the inclusion criterion requiring comparison of results with the native population.

The main characteristics of the studies as well as the primary results are shown in Appendix 1.

Design and Characteristics of Studies

Given the inclusion criteria for this review, all items are based on quantitative studies, of which 18 are cross-sectional studies and three are longitudinal cohort.

The size of the immigrant population samples used in the selected studies ranged between 78 and 243,860 individuals, with an average of 13,942 people ($S = 51,257$). As for the natives, the size of the samples varied between 56 and 859,653 subjects, with an average of 51,524 people ($S = 181,904$).

Of the countries where the studies were conducted, the European field stands out, with 16 publications: three in Spain (Del Amo et al., 2011; Kirchner & Patiño, 2011; Qureshi et al., 2013), two in

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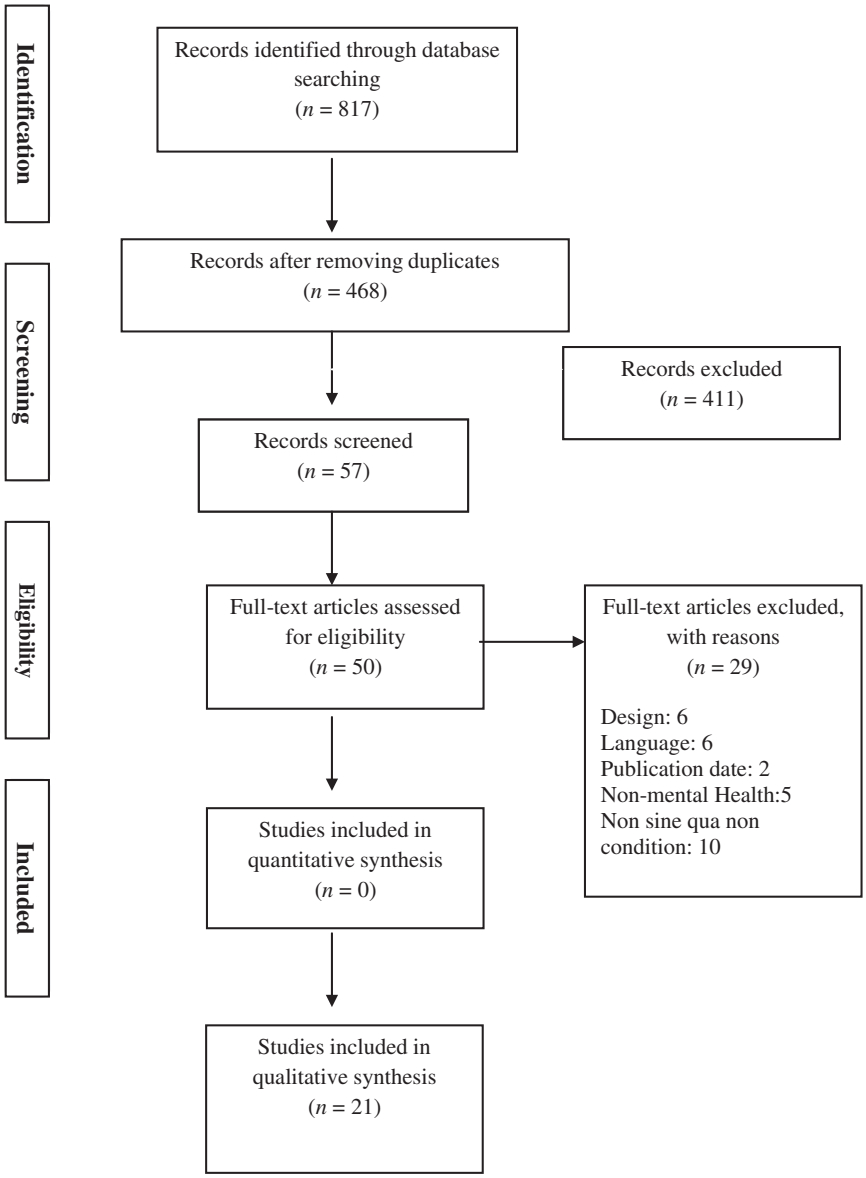

Fig. 1. Results of the bibliography search.

Switzerland (Heeren et al., 2014; Steinhausen, Bearth-Carrari, & Metzke, 2009), Netherlands (Schrier et al., 2010, 2012), Germany (Aichberger et al., 2010; Bromand et al., 2012), and Sweden (Bursztein et al., 2012; Johansson et al., 2012), and one each in Austria (Kerkenaar et al., 2013), Italy (Iliceto et al., 2013), and France (Amad et al., 2013), respectively. Canada followed with three works (Schaffer et al., 2009; Setia, Quesnel-Vallee, Abrahamowicz, Tousignant, & Lynch, 2012; Stafford, Newbold, & Ross, 2010), and, finally, a study each in the United States (Breslau, Borges, Hagar, Tancredi, & Gilman, 2009), Australia (Sharma, 2012), New Zealand (Kokaua, Schaaf, Wells, & Foliaki, 2009), and Israel (Nakash, Nagar, Shoshani, Zubida, & Harper, 2012).

It is important here to point out that limiting the search to studies comparing native and immigrant population restricts the selection of articles; this leaves screening studies conducted in other countries such as the United States out of the analysis. Thus, most studies carried out in this country in recent years compare immigrants with their compatriots in their countries of origin that do not migrate, with other groups of immigrants of different ethnic origin; either focuses directly on the description of the selected sample without making comparisons.

The vast majority of the articles analyzed ($N = 13$) focus on the study of the prevalence of depression and anxiety among immigrants and the native population (Breslau et al., 2009; Bromand et al., 2012; Heeren et al., 2014; Iliceto et al., 2013; Johansson et al., 2012; Kerkenaar et al., 2013; Kirchner & Patiño, 2011; Kokaua et al., 2009; Nakash et al., 2012; Schrier et al., 2012; Setia et al., 2012; Sharma, 2012; Steinhausen et al., 2009). Major depression was examined in four studies (Aichberger et al., 2010; Qureshi et al., 2013; Schrier et al., 2010; Stafford et al., 2010), and four analyzed the prevalence of somatization in both populations (Del Amo et al., 2011; Kirchner & Patiño, 2011; Nakash et al., 2012; Sharma, 2012). The psychotic symptomatology was evaluated in four studies (Amad et al., 2013; Breslau et al., 2009; Kirchner & Patiño, 2011; Schaffer et al., 2009), two of which were devoted to bipolar disorder (Breslau et al., 2009; Schaffer et al., 2009) and the associated risk of suicide (Bursztein et al., 2012; Iliceto et al., 2013). Post-traumatic stress disorder was less frequently evaluated (Amad et al., 2013).

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Table 2
Quality Assessment for the Observational Studies (STROBE).

Scored "A"	Scored "B"	Scored "C"
Del Amo et al., 2011. 86.36% (19/22)	Kirchner & Patiño, 2011 68.1% (15/22)	
Schrier et al., 2010. 81.81% (18/22)	Amad et al., 2013. 77.27% (17/22)	
Qureshi et al., 2013. 95.45% (21/22)	Nakash et al., 2012. 72.72% (16/22)	
Stafford et al., 2010. 95.4%(21/22)	Johansson et al., 2012. 77.27% (17/22)	
Schrier et al., 2012. 95.4%(21/22)	Steinhausen et al., 2009. 72.72% (16/22)	
Bursztein et al., 2012. 95.4%(21/22)	Kokaua et al., 2009. 72.72% (16/22)	
Schaffer et al., 2009. 95.4%(21/22)	Iliceto et al., 2013. 77.27% (17/22)	
Sharma, 2012. 81.8% (18/22)	Setia et al., 2012. 77.27% (17/22)	
Kerkenaar et al., 2013. 81.8% (18/22)	Breslau et al., 2009. 77.27% (17/22)	
Aichberger et al., 2010. 81.8% (18/22)	Heeren et al., 2014. 77.27% (17/22)	
	Bromand et al., 2012. 72.72% (16/22)	

NOTE: Each of the criteria above answers 'yes' or 'no' or 'can't tell' and score at least 50% in order for the study to be included.
Scoring classification of the quality of the included studies:

- Good quality studies must answer 'yes' to 80%–100% of the quality assessment criteria and scored as 'A'.
- Moderate quality studies must answer 'yes' to 50%–79% of the quality assessment criteria and scored as 'B'.
- Weak quality studies must answer 'yes' to less than 50% of the quality assessment criteria and scored as 'C'.

The measuring instruments used for these studies were varied but mainly included four: the *Composite International Diagnostic Interview* (Kokaua et al., 2009; Schaffer et al., 2009; Schrier et al., 2010, 2012; Setia et al., 2012), the *MINI Neuropsychiatric Interview* (Amad et al., 2013; Qureshi et al., 2013), the *General Health Questionnaire (GHQ-28)* (Bromand et al., 2012; Del Amo et al., 2011) and the *Kessler Psychological Distress Scale* (Schaffer et al., 2009; Sharma, 2012).

Quality of the Studies

A summary of the quality criteria of the different studies is shown in Table 2. Based on the criteria defined by Moher et al. (2010), ten observational studies can be classified as level A quality (good: response more than 80% of the evaluated items) and 11 studies can be classified as level B quality (moderate: response between 50% and 79% of the evaluated items). The primary deficiencies are those related to the determination of the sample size, the missing data, the flow of participants, and the efforts to address potential sources of bias.

DISCUSSION

Prevalence: Is Mental Pathology Related to Immigration?

Our search bibliography results highlight a greater tendency of immigrants to present or develop a mental illness than the natives of their countries of destination. In particular, 13 of the 21 studies we analyzed (61.9%) (Aichberger et al., 2010; Amad et al., 2013; Bromand et al., 2012; Bursztein et al., 2012; Del Amo et al., 2011; Heeren et al., 2014; Johansson et al., 2012; Kerkenaar et al., 2013; Kirchner & Patiño, 2011; Nakash et al., 2012; Schrier et al., 2010, 2012; Steinhausen et al., 2009) indicated a higher prevalence of mental pathology among immigrants than among the native population. The 23.8% (Breslau et al., 2009; Kokaua et al., 2009; Schaffer et al., 2009; Setia et al., 2012; Stafford et al., 2010) support the opposite trend, that the native population experiences more mental pathology than immigrants, whereas there are no significant differences between natives and immigrants in 14.3% of the cases (Iliceto et al., 2013; Qureshi et al., 2013; Sharma, 2012).

The data provided by prestigious epidemiological studies carried out in the United States also are very contradictory; we could not reaffirm that the migrant population is more or less healthy than those who stay in their country of origin (Alegría, Mulvaney-Day, et al., 2007; Alegría et al., 2008; Breslau, Aguilar-Gaxiola, Borges, Castilla-Puentes, et al., 2007; Breslau, Aguilar-Gaxiola, Borges, Kendler, et al., 2007; Takeuchi et al., 2007; Williams et al., 2007). In that respect, some studies argue that immigrants who arrive in a new country have less risk of having a mental disorder throughout their lives than the second or third generation of immigrants born in the country (Alegría, Mulvaney-Day, et al., 2007; Breslau, Aguilar-Gaxiola, Borges, Kendler, et al., 2007). Other works find gender differences and argue that although immigrant men have higher rates of psychiatric disorders than the natives, it is just the opposite case for women (Williams et al., 2007).

Authors are more inclined to the idea of acculturative stress, that it is the stress of living in a foreign culture that promotes mental illness (Breslau, Aguilar-Gaxiola, Borges, Castilla-Puentes, et al., 2007). Along the same lines, other analyses conclude with the need to be cautious before affirming that the status of being a foreigner (theory of a healthy immigrant) protects the immigrant from psychiatric disorders (Alegría et al., 2008).

The results confirm that immigration would have a significant impact on psychopathology, but it depends on the migration process, that is, on the conditions of migration and on the host country. The risk of developing a mental illness is not increased by the fact of migrating (Collazos, Qureshi, & Casas, 2005), but it is determined in large part by traumatic experiences involved in the migration process as well as the vulnerability of the immigrants themselves (Collazos, Qureshi, Antonin, & Tomás-Sábado, 2008). Or, as Achotegui (2009) says, migration is not a cause of mental illness in itself, but it is a risk factor if two assumptions are met: vulnerability (the immigrant is not healthy or suffers from disability), a very high level of stressors (hostility in the reception environment), or both of these.

Nosological Differences

Some studies link immigration with a greater predisposition to depression (including major depression), depressive symptoms (Del Amo et al., 2011; Qureshi et al., 2013; Schrier et al., 2010; Steinhausen et al., 2009), anxiety disorders (Del Amo et al., 2011; Steinhausen et al., 2009), and a greater tendency toward somatization (Del Amo et al., 2011); these diseases are directly related to the level of stressors that they find in the host countries and to the migration process by itself.

As far as the psychotic symptomatology, it appears associated with immigration in two of the studies (Amad et al., 2013; Kirchner & Patiño, 2011). Another article identifies problems of attention and aggression among the immigrant community (Steinhausen et al., 2009).

Other disorders are attributed to the native populations of the targeted countries, in particular, a higher prevalence of panic disorder and abuse of alcohol and other drugs (Qureshi et al., 2013).

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The mere fact of being an immigrant does not presume a tendency to manifest depression, anxiety, or somatic symptoms. In fact, there are studies of psychological distress in the native populations of the destination countries (Breslau et al., 2009; Setia et al., 2012; Stafford et al., 2010), and in other cases, no differences were found when relating these disorders to one population or another (Iliceto et al., 2013; Qureshi et al., 2013; Sharma, 2012).

Given that in psychotic pathology, mainly schizophrenia among other things, a genetic component is attributed, we would expect to find less difference in the prevalence of this disease among immigrant and native populations. However, in our results, the psychotic symptomatology is directly related to immigrant status, except for bipolar disorder, which is attributed to the natives (Schaffer et al., 2009). A recent study about the various explanations that have been given for the greater prevalence of psychotic pathology among immigrants and ethnic minorities defends a model of social development. The authors point out that in recent years, an interest has been revived by the powerful role the social environment plays as an etiological factor in schizophrenia and other psychoses. Social experiences that have an impact on predisposed individuals increase the risk of developing a psychosis (Morgan, Charalambides, Hutchinson, & Murray, 2010). It is suggested that repeated exposure to social adversity can be linked to psychosis through the generation of cognitive biases and affective states that predispose the formation of symptoms. Thus, for example, an immigrant's repeated exposure to a threat might cause paranoia and persecutory delusions that, in turn, may lead to anticipation of threats, anxiety, and a tendency to draw erroneous conclusions.

It is interesting to note that two of the four studies that found no difference in the prevalence of psychiatric diseases between immigrants and natives analyze a wide range of mental disorders, ranging from major depression to the generalized anxiety disorder, post-traumatic stress disorder, or schizophrenia.

Risk Factors

In the analysis of the risk factors that predispose immigrants to mental illness, several studies argue that being female increases the prevalence of mental disorders (Aichberger et al., 2010; Breslau et al., 2009; Bromand et al., 2012; Del Amo et al., 2011; Kirchner & Patiño, 2011; Schrier et al., 2010; Setia et al., 2012; Stafford et al., 2010). Thus, 41% of articles selected for this review confirm that *being female* is a risk factor for the development of a psychiatric illness, for both natives and immigrants; this result falls in line with other studies (Bas et al., 2009). *Marital status* is another factor to take into account in the development of mental illness. So, being single or divorced is related to mental illness (Aichberger et al., 2010; Bromand et al., 2012; Sharma, 2012), whereas being married is a protection against these problems (Stafford et al., 2010).

The selected articles do not agree in their analysis of *educational level* as a risk factor. Some authors relate a high level of education among immigrants to a higher prevalence of mental illness, which is explained by frustration at not achieving a working status as expected in the country of destination (Del Amo et al., 2011). However, others believe that a high level of education is a protection factor for male immigrants against depression (Bursztein et al., 2012).

On the contrary, the selected articles agree that *unemployment*, *job dissatisfaction*, *low income*, and *going through economic difficulties* are risk factors that can lead an immigrant to develop a mental disorder (Bromand et al., 2012; Del Amo et al., 2011; Johansson et al., 2012; Setia et al., 2012; Sharma, 2012).

A recent meta-analysis on depression and anxiety among immigrant workers and refugees shows that the highest gross domestic product rates in the host country are related to a lower prevalence of depression and anxiety among those who work but not among refugees (Lindert, Ehrenstein, Priebe, Mielck, & Brähler, 2009).

On the other hand, an analysis about forced migration and depression in China demonstrates the relationship of casualty between involuntary migration and this pathology; their authors explain that their results still cannot be generalized for voluntary migration (Hwang, Cao, & Xi, 2010).

Another variable to consider is the *time of residence* in the country of destination. Thus, an analysis carried out in Canada advocates that, in general, immigrants newly arrived in the country are healthier than the Canadian population, but over time, there is a decrease in the effect of the "healthy immigration" (Gushulak, Pottie, Roberts, Torres, & DesMelues, 2011). Similar data are collected in the United States, stating that immigrants who arrived in the country after early childhood presented with greater risk of mental illness as they age than the Americans and those who emigrated in early childhood (Alegría, Sribney, Woo, Torres, & Guarnaccia, 2007b). It seems that being less than 10 years in the country of destination increases the risk of mental disorder among men, and it decreases in immigrant women (Johansson et al., 2012). Therefore, the timing of migration would also be important; migrating in childhood is associated with a higher prevalence of anxiety disorders among immigrants (Kokaua et al., 2009), whereas emigrating after preadolescence would be a protective factor against mental disease (Setia et al., 2012).

At the same time, suffering from *poor physical health* has been considered a risk factor (Aichberger et al., 2010; Sharma, 2012).

Finally, some studies highlight the *difficulties of acculturation*, the *integration process itself* (Bursztein et al., 2012; Nakash et al., 2012), and the ethnic origin (Amad et al., 2013; Qureshi et al., 2013; Steinhausen et al., 2009) as important moderators. In the United States, belonging to an ethnic minority has been associated with higher risks of mental disorder among black immigrants from the Caribbean (Williams et al., 2007). Another study conducted in North America postulates, as a result, that the prevalence of post-traumatic stress disorder is higher among blacks than among Hispanics and whites and lower among Asians. The authors' explanations suggest that ethnic minorities are treated less frequently than whites because of the stigma of mental illness among these groups, the willingness to seek solutions outside the family for their mental problems only in extreme circumstances, the lack of training of professionals to cater to these minorities, and the restricted access to health services because of living in impoverished areas (Roberts, Gilman, Breslau, Breslau, & Koenen, 2011). Similarly, the results of a study of mental health in the French population reveal that within immigrant groups, the risk of psychotic disorder was highest among those from the Caribbean and Africa (Amad et al., 2013). Another case, based on a controlled study conducted in Spain, points out that although Spanish, East Europeans, and immigrants from Arabia showed a similar psychopathology prevalence, Latin Americans reached higher levels, and sub-Saharan and Asian immigrants had lower levels than the Spanish native (Qureshi et al., 2013). Finally, a study of young adolescent immigrants' psychosocial adaptation to the Swiss community states that young people from the south and southeast of Europe, as a population, tend toward more somatization disorders, anxiety, depression, and aggressiveness (Steinhausen et al., 2009).

It seems that social determinants influence a greater vulnerability of the immigrant population to disease. Living (overcrowded housing) and employment (poor working situation and higher unemployment rates) conditions coupled with the risk of exclusion from social services and health care are key factors that can weaken the health of immigrants. Thus, in Spain, there is evidence of the impact of the economic crisis on mental health and some indications of increased barriers to health care. These barriers are key health determinants compounded by the effect of the economic crisis (Vázquez, Vargas, & Aller, 2014). The administrative situation in which the person lives (undocumented immigrants), the degree of knowledge about the health care system, the previous experience with other health systems, the conception of

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health or disease, linguistic difficulties, and religious aspects need to be considered (Aerny et al., 2010).

Impoverishment, economic insecurity, and precarious employment associated with the current economic crisis lead to a prolonged stress that carries an increased risk of infections, diabetes, hypertension, myocardial events, premature death, cerebrovascular accidents, and mental health problems (Dávila-Quintana & González, 2009; Porthé et al., 2009).

Conversely, having dual nationality, citizenship status, and social support are considered protective factors against disease (Del Amo et al., 2011; Heeren et al., 2014; Sharma, 2012; Stafford et al., 2010; Steinhausen et al., 2009).

Toward an Adequate Distribution of Resources

The practical considerations of these results are clear in terms of the distribution of resources; more government policies on primary prevention are needed to protect the immigrant from social exclusion and, at the same, it is necessary to divert resources toward primary care and community mental health.

Primary prevention is the focus of the policies within countries dedicated to dealing seriously with the problem that might involve migration and mental health. In health care in Spain, for instance, the adoption of Law 16/2012-April 20, about urgent measures to ensure the sustainability of the national health system and to improve the quality and safety of its benefits, has caused a turn in non-EU foreigners' health protection (Real Decreto-Ley 16/2012). This new law changed the requirements that foreigners must abide by to obtain health care. Now, to access the Spanish public health care system on terms equal with native residents, non-EU foreigners must prove they are residents. That is, they must have a current residential status issued by the Spanish government. Before this regulation, foreigners just needed to be registered in the municipality where they lived. With such measures, it is difficult to imagine that much of the immigrant population arriving in Spain will find the conditions necessary to obtain and visit a family doctor or mental health specialist.

At the same time, reception and social awareness policies that allow a healthy acculturation of the newcomers are needed.

Implications for Mental Health Nursing

Psychiatric nurses have an essential role in meeting the mental health needs of diverse communities. In light of the results of this study, it is necessary to strengthen the role of psychiatric nursing services in primary and community care aimed at prevention of disease and promotion of mental health of the immigrant population. Even with a growing body of literature about the importance of mental health and risk factors for mental illness and mental health–related disparities, the focus on mental health promotion and disease prevention continues to be minimized or ignored (Calloway, 2007; Pearson et al., 2015).

Care for immigrant patients with mental illness should be approached using the Transcultural nursing model (Leininger, 1991) to provide culturally competent nursing care based on the needs of patients, taking into account individual characteristics.

Planning nursing care in mental health and attending to the influence of socio-demographic variables (gender, age at which the migration process began, time spent, and administrative situation in the host country); motivation and conditions of the migration process (voluntary/involuntary migration, traumatic experiences, etc.); the social support network available (including the number of compatriots in the host country); the social determinants of health such as unemployment, precarious employment, economic difficulties, stigma, discrimination or social exclusion (Pearson et al., 2015); and health beliefs and traditions, as other authors and we affirm (Bas-Sarmiento, Fernández-Gutiérrez, Albar-Marín, & García-Ramírez, 2015; Vivanco-González et al., 2005) are prerequisites for competent care, especially in patient assessment.

Similarly, for the establishment of a comprehensive plan of care, it is necessary to evaluate the difference between the culture of origin and the host country. Results from *Atlas: Nurses of Mental Health* (World Health Organization, 2007) show that what immigrants think about the mental health nurse in their countries might be far from the role that these professionals acquire in the host country, which can lead to misperceptions that generate conflicts and hinder the therapeutic relationship.

On the other hand, communication barriers and cultural differences between nurse and patient can lead to errors in interpreting symptomatic manifestations of patients. Cultural factors can influence not only the development of symptoms but their manifestation and, therefore, cause problems in the assignment of diagnostic tags, care, and objectives (Ellis, 2015). For example, among Moroccans and Koreans, there is no designated term for depression, and it is characteristic for the main manifestation of this pathology to be somatization, which usually results in a search for general care services (Park & Bernstein, 2008) and diagnostic errors.

CONCLUSIONS

- Migration represents a major challenge, but it does not lead exclusively to mental distress. Immigrants experience more depression, anxiety, and somatic disorders. The nosological differences we found could be related to the circumstances of the migration process and the stressful conditions they find in the host countries.
- Being a woman is an added risk factor for suffering a mental disorder, not only among immigrants but also among the native population of their countries of destination. Other risk factors that contribute to the possibility of becoming sick are the length of stay in the country (the healthy-immigrant effect wears off after about 10 years in the new destination); whether single or divorced; lack of social support; and, obviously, low income, unemployment, or complicated labor situations.
- A current adequate distribution of resources, according to the results of this study, should guide and manage greater resources in primary care and community mental health centers. At the same time, more government policies on prevention and health promotion are needed to find adequate resources for immigrants, not only to prevent social exclusion and mental illness but to promote their psychosocial well-being.
- Psychiatric nursing must focus on addressing the needs of families and individuals identified as high risk due to situational circumstances. Developing programs based on individuals, family, and social network are necessary to minimize risks and facilitate resilience.
- Most of the studies are cross-sectional descriptive designs (86%). These studies are a snapshot, at a certain time, of a population and therefore do not describe whether the exposure was preceded by a disease or vice versa. Given that the research aims at the extinction of the "healthy immigrant effect" as time passes in the country of destination, it would be interesting to conduct longitudinal analytical studies, which allow an analysis of the evolution of different diseases over time in the immigrant community.
- Research should clarify whether ethnic origin is also a real predisposition to the development of mental illness. The heterogeneity in the evaluation measures used hinders the comparability of results and may explain the controversial profile of some findings.

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APPENDIX 1. SUMMARY ARTICLES.

Article	Country	Sample	Measuring instruments	Main results
1. Latin-American immigrant women and mental health: Differences according to their rural or urban origin Kirchner & Patiño, 2011	Spain	Immigrants: 186 Natives: 278	Symptom Checklist-90-Revised (SCL-90-R)	- Immigrant women reported higher levels of psychological symptoms than Spanish women did. - Immigrant women have higher scores on psychotic symptoms (paranoid ideation, interpersonal sensitivity, and psychoticism) and depressive symptoms. - Immigration is a potent stressor that can lead to psychological distress.
2. Mental health in Ecuadorian migrants from a population-based survey: The importance of social determinants and gender roles Del Amo et al., 2011	Spain	Immigrants: 561 Natives: 561	General Health Questionnaire (GHQ-28). Spanish version	- The prevalence of possible psychiatric cases was higher among Ecuadorian (34%) and Spanish women (24%) compared with men of both nationalities. - Women's risk factors: having children; living alone - Men's risk factors: bad work environment; not having financial support, and low social support
3. Similarity in depressive symptom profile in a population-based study of migrants in the Netherlands Schrier et al., 2010	Netherlands	Immigrants: 491 Natives: 321	Composite International Diagnostic Interview (CIDI), Symptom Checklist-90-Revised (SCL-90-R), subscale depression; World Health Organization Disability Assessment Schedule II (WHODAS II)	- The prevalence of depression and depressive symptoms was higher among Turks and Moroccans, compared with the native Dutch. And within immigrants, women scored higher than men. - The relationship between depressive symptoms and functional disability was the same for immigrants and natives.
4. Increased prevalence of psychotic disorder among third-generation migrants: Results from the French Mental Health in General Population Survey Amad et al., 2013	France	Immigrants: 9,821 Natives: 27,242	Mini International Neuropsychiatric Interview (MINI French version 5.0.0)	- Psychotic disorders were diagnosed in 1,014 individuals in the total sample: 271 unique episodes and 743 recurrent episodes. - The prevalence of a single psychotic episode was significantly higher among immigrants of first and second generation compared to the natives. - The prevalence of recurrent psychotic disorder was significantly higher among immigrants from first, second, and third generation among the natives.
5. The effect of acculturation and discrimination on mental health symptoms and risk behaviors among adolescent migrants in Israel Nakash et al., 2012	Israel	Immigrants: 125 Natives: 146	Brief Symptoms Inventory, The Middle School Youth Risk Behavior Survey, Acculturation Index; Everyday Discrimination Scale, Single Item Self-Esteem Scale	- Immigrant adolescents had poorer mental health and were more likely to engage in risky behaviors that native Jews. - The first generation of immigrants reported higher levels of risky behavior that the second generation and native Israelis. - Youth who assimilated the host culture reported higher levels of mental health symptoms compared with other forms of acculturation.
6. Epidemiology of psychiatric morbidity among migrants compared to native born population in Spain: A controlled study Qureshi et al., 2013	Spain	Immigrants: 1,503 Natives: 1,503	MINI International Neuropsychiatric Interview	- No differences in psychiatric morbidity among immigrants and Spaniards - Spanish people, Eastern Europeans, and immigrants from Arabia have a similar prevalence of psychopathology, whereas Latin Americans had higher levels, and sub-Saharan and Asians had lower levels than Spaniards.
7. Work and health among immigrants and native Swedes 1990–2008: A register-based study on hospitalization for common potentially work-related disorders, disability pension, and mortality Johansson et al., 2012	Sweden	Immigrants: 243,860 Natives: 859,653	CIE 9 and CIE 10	- Nordic immigrants had a high risk for many of the outcomes investigated. - Male immigrants who spent over 10 years in the country had less risk for many of the outcomes examined than men who spent less time. For women, the results, adjusted for age and status at work, showed the reverse trend. - Immigrant unemployed men had an equal or lower risk of hospitalization due to psychiatric disorder than unemployed Swedish. - The post-migration situation is more important for psychological distress than the pre-immigration experience.
8. Psychosocial adaptation of adolescent migrants in a Swiss community survey Steinhausen et al., 2009	Switzerland	Immigrants: 243 Natives: 996	In the self-report section, young people and their adaptation to Switzerland used subscales to detect insulation, somatic behavior, anxiety and depression, social problems, attention problems, delinquent and aggressive behaviors.	- Immigrant adolescents scored higher on scales measuring anxiety and depression, attention problems, and aggression. - Immigrant women had more abnormalities in internalizing problems, whereas boys had more externalizing problems. - Young people with dual nationality were similar to natives in all domains. - Ethnicity is an important moderator. - Teens in southern and southeastern Europe differed from the natives in having more unfavorable psychosocial characteristics.

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(continued)

Article	Country	Sample	Measuring instruments	Main results
9. Twelve-month prevalence, severity and treatment contact of mental disorders in New Zealand born and migrant Pacific participants in Te Rau Hinegaro: The New Zealand Mental Health Survey Kokaua et al., 2009.	New Zealand	Immigrants: 3,463 Natives: 7,071	Composite International Diagnostic Interview, version 3.0	- The prevalence of mental disorders was lower among those who immigrated as adults than among those who immigrated as children or were the descendants born in New Zealand of immigrants. - The use of psychiatric services was low among the natives, especially among older immigrants. The latter suffering from a disorder showed a particularly low use of specialized mental health services. - The natives showed a higher prevalence of mental disorders, followed by young immigrants and older.
10. Suicide risk and psychopathology in immigrants: A multi-group confirmatory factor analysis Iliceto et al., 2013	Italy	Immigrants: 234 Natives: 237	Temperament Evaluation of Memphis, Pisa, Paris, and San Diego (TEMPS-A); Beck Hopelessness Scale (BHS); Eysenck Personality Questionnaire-Revised (EPQ-R), The 9 Attachment Profile (9AP)	- Immigrants may experience specific stressors that contribute to psychopathology and the risk of suicide, but this study shows very similar results between the two groups.
11. Psychological distress among immigrants and visible minorities in Canada: A contextual analysis Stafford et al., 2010	Canada	Immigrants: 14,049 Natives: 94,015	Composite Diagnostic Interview Schedule Short Form for Major Depression (CIDI-SF MD)	- Recent immigrants exhibited a lower prevalence of depression. In general, immigrants and minorities are less likely to experience depression than the general population. - The density of immigration in a region is a potentially important contextual explanation; an increase in the percentage of immigrants in the region was statistically significantly associated with a lower likelihood of depression among immigrants. - Being male, being younger than 30 or older than 50, being married, being a highly educated, and owning one's own home are associated with a reduced likelihood of depression.
12. Comorbidity of anxiety and depressive disorders: A comparative population study in Western and non-Western inhabitants in the Netherlands Schrier et al., 2012	Holland	Immigrants: 393 Natives: 307	Composite International Diagnostic Interview	- The prevalence rates of comorbidity of anxiety and depression were higher among Turkish (9.8%) and Moroccans (3.8%) compared with the Dutch (2.3%). - The prevalence rate estimated, at a year, for anxiety was 6.8% for natives and 9.6% to 8.3% for T urks and Moroccans. For disorders of depression, the rates were 10.3%, 22.4%, and 9.8%, respectively. - Each increase in the level of depressive disorder, the percentage of comorbidity with anxiety disorder: 12.8% of subjects with dysthymic disorder or major depression were also associated with anxiety. This was repeated in the three groups. In all three groups, 56.3% of patients debuted with anxiety and then depression.
13. Attempted suicide among immigrants in European countries: An international perspective Bursztein et al., 2012	Sweden	Immigrants: 4,160 Natives: 22,888		- A total of 27 of the 56 immigrant groups studied showed attempt rates significantly higher than their hosts' suicide attempt rate. Only four scored lower rates. - A correlation was found between the rate of attempted suicide among immigrants and the suicide rate in the country.
14. Differences in prevalence and treatment of bipolar disorder among immigrants: Results from an epidemiology survey Schaffer et al., 2009	Canada	Immigrants: 78 Natives: 753	World Mental Health-Composite International Diagnostic Interview; Kessler Psychological Distress Scale	- The prevalence rate of bipolar disorder was significantly lower among immigrants compared to natives. Immigrants with bipolar disorder tended to go less to health professionals, and they used less psychotropic medication. - The clinical features of bipolar disorder did not differ significantly by immigrant status. No significant differences in onset of illness, number of manic or depressive episodes, comorbid anxiety, and psychological distress
15. Psychological distress among Australians and immigrants: Findings from the 2007 National Survey of Mental Health and Wellbeing Sharma, 2012	Australia	Immigrants: 2,310 Natives: 6,529	Kessler Psychological Distress Scale (k-10)	- Risk factors for suffering distress among Australians are: being single, separated or divorced; being female; having fewer than 9 years of formal education; being unemployed; having been ill in the past twelve months; daily smoking; and taking drugs. Among English-speaking immigrants, these factors were equal to Australians. - Non-English-speaking immigrants who had suffered the disease in the past twelve months incurred a major risk factor for suffering distress. However, being a recent immigrant and not speaking English at home downgraded the rate of psychological distress.

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(continued)

Article	Country	Sample	Measuring instruments	Main results
16. Different outcomes for different health measures in immigrants: Evidence from a longitudinal analysis of the National Population Health Survey (1994–2006). Setia et al., 2012	Canada	Immigrants: 2,703 Natives: 3,684	Composite International Diagnostic Interview (CIDI)	- Non-white immigrants were less likely to have severe psychological distress compared to those born in Canada (men and women). - Immigrant women were considered more likely than Canadian women to have poor health during the 12 years studied. Immigrants with low incomes reported greater distress and poorer health than those with higher incomes. - No significant differences were found in the mental health and self-rated health of Canadian men and immigrant men through the 12 years studied. - The likelihood of reporting severe psychological stress increased with the years of data collection in the two groups of men, but women did not follow a similar trend. - The likelihood of suffering severe psychological distress increased as income declined in both men and women.
17. Immigration to the USA and risk for mood and anxiety disorders: Variation by origin and age at immigration Breslau et al., 2009	United States	Immigrants: 5,595 Natives: 28,006	Associated Disabilities Interview Schedule DSM-IV version	- Mood disorders or anxiety disorders are less likely among immigrants than among US-born people. - The lowest risk seems to be limited to immigrants who spent their pre-teens outside the United States and only applies to groups with low risk for mood disorders and anxiety.
18. Depression and anxiety among migrants in Austria: A population-based study of prevalence and utilization of health care services Kerkenaar et al., 2013	Austria	Immigrants: 518 Natives: 2,930	Patient Health Questionnaire-4	- The prevalence of depression did not differ significantly between women and men, but anxiety disorders were more prevalent among women than among men. - Among men, the prevalence of dysphoric disorders across immigrant groups was not significantly different from that of the natives. - A higher prevalence of dysphoric disorders among women from Eastern Europe was obtained compared with other Eastern European and Austrian women. Among men, this difference did not occur. - No association was found between length of stay in Austria and the prevalence of these disorders.
19. Depression in middle age and older first-generation migrants in Europe: Results from the Survey of Health, Ageing and Retirement in Europe (SHARE). Aichberger et al., 2010	Germany	Immigrants: 2,140 Natives: 24,622	Euro-D scale	- Immigrants are more likely to suffer from depression than non-immigrants. The highest rates among immigrants were in Southern Europe, with a prevalence of 35.5% compared to 31.4% of the natives, but the difference is not statistically significant. Factors associated with depression are: women; living alone; being an immigrant (North and West of Europe) and aged.
20. Psychopathology and resident status: Comparing asylum seekers, refugees, illegal migrants, labor migrants, and residents Heeren et al., 2014	Switzerland	Immigrants: 146 Natives: 56	Harvard Trauma Questionnaire, Posttraumatic Diagnostic Scale and the Hopkins Symptom Checklist-25	- Asylum seekers, refugees, and illegal immigrants showed high psychiatric morbidity. - Asylum seekers showed a much higher rate of being diagnosed with post-traumatic stress disorder (PTSD) and symptoms of depression than the other groups. The length of stay has no correlation with the total score of PTSD symptoms. - Asylum seekers, refugees, and illegal immigrants reported more cases of anxiety than immigrants with work and Swiss residents. As for refugees, higher levels of anxiety were associated with a longer stay in the country.
21. Mental health of Turkish women in Germany: Resilience and risk factors Bromand et al., 2012	Germany	Immigrants: 105	General Health Questionnaire (GHQ-28) General Self-Efficacy Scale (GSE) Berlin Social Support Scales (BSSS) Social Strain (F-SOZU) NEO-Five Factor Inventory (NEO-FFI)	- Social strain and neuroticism were positively associated with mental distress. Perceived self-efficacy and extraversion were negatively associated with mental distress. - The relationship between social support and mental distress did not reach statistical significance. - Migration represents a major challenge, but it does not always lead to mental distress.

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