Psychotropic drugs prescription in undocumented migrants and indigent natives in Italy

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To evaluate psychotropic drug use in undocumented migrants and natives in the same conditions of poverty. We studied drug dispensation by a nongovernmental organization during the year 2014. Drugs were identified according to the Anatomical Chemical Therapeutic classification and their quantity was measured in defined daily doses (DDD). We determined the percentage of patients taking at least one medicine with psychotropic activity in relation to the total number of patients receiving medicines of any class. We also calculated the individual DDD for psychoactive drugs. The percentage of natives receiving this type of medicine is significantly higher than that of undocumented migrants. Individual DDDs for each class of psychotropic drug are comparable in Italians and undocumented migrants and, among the latter, no difference was found in relation to ethnicity. Our findings describe for the first time the use of psychotropic medicines by undocumented migrants. On this basis, we hypothesize that poverty is more important than migration and ethnicity in generating the need for this type of pharmacological treatment. Both natives and undocumented migrants show poor adherence to treatment. This situation should be considered when programming health interventions in this field for the very poor and undocumented migrants. *Int Clin Psychopharmacol* 32:294–297 Copyright © 2017 Wolters Kluwer Health, Inc. All rights reserved.

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Introduction

In recent years, the growing immigration from developing countries to the European Union (EU) has increasingly been composed of undocumented individuals escaping from conditions of poverty, war and persecutions (Tsiodras, 2015). Their number is increasing steadily: for example, between 2012 and 2013, detections of unauthorized crossing of the EU external borders increased by 48% (75 000–107 000) (International Organization for Migration, 2014).

Evaluation of the health status and needs of migrants has been carried out in recent years for documented individuals, especially through the analysis of existing databases. For affective, mood and personality disorders, data are available especially on their epidemiology (Diaz *et al.*, 2015; Esmeyer *et al.*, 2015) and predisposing factors (Lindert *et al.*, 2009; Arévalo *et al.*, 2015). Despite this, conclusions drawn by different authors are somehow conflicting, for example for depressive disorders, whose prevalence in this population, compared with natives, is reported differently (Astell-Burt *et al.*, 2012; Esmeyer *et al.*, 2015; Levecque and Van Rossem, 2015; Fellmeth *et al.*, 2016). This may because of the many factors underlying the clinical manifestations of these disorders, such as premigration and postmigration factors, proficiency in the host country language, neighbourhood ethnic density, type of immigration policies, the reason for migration, mobility problems, etc. (Lindert *et al.*, 2009; Steel *et al.*, 2011; Arévalo *et al.*, 2015; Rask *et al.*, 2015).

For undocumented migrants, almost no information is available, the only exception being that the fact itself of not having a legal status has a negative impact on physical and mental illnesses (Kuhene *et al.*, 2015). In an attempt to begin to evaluate the prevalence of mental health problems in this population, we studied the use of antidepressants, antipsychotics and anxiolytics in a population of undocumented migrants and Italians in the same condition of poverty cared for by a nongovernmental organization (NGO).

Methods

For this study, we used the original method of matching patients' demographic data with drug prescription, coded according to the Anatomical Chemical Therapeutic (ATC) classification, as described previously (Bini *et al.*, 2016). For this, we collected the data on drug dispensation made available by the pharmacy of the Opera San Francesco (OSF), a major NGO in Milan, Lombardy (Italy). This NGO provides healthcare to undocumented

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migrants and natives not registered with the National Health Service.

All the adults aged 18 years of age and older seen in the outpatients clinic at the OSF in year 2014 who received at least one drug prescription were initially included; migrants were grouped on the basis of their ethnicity.

For each patient age, sex and ethnic origin were recorded, together with the prescription and the date of consultation.

Drugs were grouped according to the ATC classification and their quantities were calculated as the daily defined dose (DDD)/1000 patients/day, as suggested by the WHO (WHO Collaborating Centre for Drug Statistics Methodology. Oslo, 2012). The ATC classification is a taxonomic method based on the classification of drugs according to the organs or systems that they target and on their chemical, pharmacological and therapeutic properties. The DDD is a unit of measure representing the daily maintenance dose in adults according to the main therapeutic indication of the drug (Leung and Dumontier, 2016).

ATC classes N05A (antipsychotics), N05 B (anxiolytics) and C (hypnotics and sedatives) and N06 (antidepressants) were taken into account. N05B and N05C classes were considered together as the anxiolytic and hypnotic activities of these drugs are strictly related; anticonvulsants, also used in mood disturbances, were not considered as we could not differentiate between prescriptions for epilepsy and prescriptions for mood regulation. Among the individuals receiving prescriptions, we first calculated the number of individuals receiving at least one such prescription (N05A and/or N05 B/C and/or N06) and the number of individuals receiving any other prescription; for each group, the use of psychotropic drugs is expressed as the percentage of individuals receiving one or more of these on the total number of individuals receiving any class of medicines. This was done to make a correction since there was a high difference in numerosity among the various groups. Then, for each of the three ATC classes, we calculated the mean DDD for a single patient. These calculations were carried out separately for the different ethnic groups (and the group of natives) using an appropriate statistical software IBM-SPSS Statistics (IBM, North Castle, New York, USA).

Ethics

This study was approved by the Ethics Committee of OSF.

All data were anonymized to make impossible the identification of individual patients.

Results

The demographic data of our population are shown in Table 1. As can be seen, the mean age was comparable in all the groups; the same was not true for the sex distribution, with more women among Latin Americans and East Europeans and more men in the other groups. Therefore, data on drug dispensations were always calculated separately for men and women to avoid a possible bias.

Table 2 shows the percentage of patients receiving at least one prescription of psychotropic drug(s) during the year of observation. This percentage is calculated for each group on the total number of patients receiving drug prescriptions when seen in the clinic. We did not differentiate between individuals who were prescribed only one or more medicines belonging to the ATC N05 and N06 classes and those who also received, at the same time, drugs in other ATC classes (e.g. antidiabetics, anti-inflammatories, etc.). This measure expresses only the ratio between the number of individuals on psychotropic drugs and that of individuals on every other class of drug, without considering if any given patient is on both types of drug or only one.

The percentage of individuals using psychotropic medicines did not show significant differences among the five ethnic groups. In contrast, the percentage of natives using ATC N05 and N06 preparations was significantly higher. The number of women was slightly higher in all the groups, with the exception of Asians; overall, it was statistically significant.

When we analysed the amount of DDDs per individual, we found no differences between the group of natives and each of the ethnic groups (Table 3). This was also true in the only case in which a difference was found between two ethnic groups, that is, between Latin Americans and East Europeans with respect to N05A drugs use; even for this peculiar and likely casual situation, the difference between Italians (9.8 ± 18.1) and either Latin Americans (15.2 ± 11.1) or East Europeans (3.7 ± 2.8) did not reach significance.

Discussion

When describing the pharmacoepidemiology of a given population, drug dispensation register data are comparable to interview-based data and less time-consuming to collect (Taipale *et al.*, 2016). In our case, we used this approach, using the data of an NGO, to compare the use of psychoactive medicines in various groups of undocumented migrants compared with a group of natives in the same conditions of poverty. Poverty is known to be associated with common mental disorders (Lund *et al.*, 2011) and these, in turn, have a greater prevalence in low-income and middle-income countries (Funk *et al.*, 2012), the same countries from which the majority of migrants arrive. Data on the mental health of this population are

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Table 1 Demographic characteristics of the population

Sex	Ethnic origin	Age (years) 18–20	21–30	31–40	41–50	51–60	>60	Total
Females	Italy	3	10	20	20	2	0	55
	Eastern Europe	35	117	159	296	444	22	1073
	Northern Africa	25	153	120	82	53	1	434
	Sub-Saharan Africa	10	30	56	61	45	2	204
	Latin America	55	173	184	356	314	26	1108
	Asia	7	14	64	50	58	2	195
Total (females)		135	497	603	865	916	53	3069
Males	Italy	4	14	16	73	42	0	149
	Eastern Europe	19	60	177	271	366	5	898
	Northern Africa	51	293	380	439	143	4	1310
	Sub-Saharan Africa	33	113	197	99	69	0	511
	Latin America	21	97	154	231	154	9	666
	Asia	43	194	143	130	133	2	645
Total (males)		171	771	1067	1243	907	20	4179
Total (males + females)		306	1268	1670	2108	1823	73	7248

Table 2 Percentage of individuals on psychotropic drugs among the population of patients on any type of treatment

Ethnic origin	Males	Females
Italy	21.2	28.6
Eastern Europe	6.6	8.6
Northern Africa	4.1	6.7
Sub-Saharan Africa	5.3	4.5
Latin America	3.8	6.1
Asia	3.6	3.6

The distribution is not casual ($P<0.001$).
Overall male percentage versus overall female percentage: $P<0.05$.
Eastern Europe versus Latin America, Northern Africa and Asia: $P<0.05$.
Italians versus any other group: $P<0.01$.

Table 3 Defined daily doses per individual during the year of observation

Sex	Ethnical group	N05A	N05B ± N05C	N06A
Females	Italy	11.8 ± 9.3	11.7 ± 8.7	26.1 ± 19.1
	Eastern Europe	10.0 ± 9.4	11.8 ± 9.0	20.1 ± 15.1
	Northern Africa	17.5 ± 8.4	12.6 ± 11.3	23.9 ± 12.4
	Sub-Saharan Africa	9.0 ± 3.4	14.2 ± 12.1	16.9 ± 13.1
	Latin America	10.2 ± 9.7	10.5 ± 6.7	18.8 ± 15.2
	Asia	9.3 ± 4.6	9.6 ± 4.2	21.3 ± 18.2
Males	Italy	9.8 ± 18.1	10.1 ± 6.7	30.7 ± 16.8
	Eastern Europe	3.7 ± 2.8	9.6 ± 6.1	21.2 ± 12.1
	Northern Africa	6.0 ± 7.6	10.8 ± 6.2	23.7 ± 11.9
	Sub-Saharan Africa	11.0 ± 6.9	12.8 ± 9.4	24.3 ± 10.3
	Latin America	15.2 ± 11.1	13.3 ± 8.5	27.0 ± 13.7
	Asia	6.6 ± 4.4	11.3 ± 7.4	20.5 ± 13.9

Data are expressed as mean ± SD.
No statistical differences were found, with the exception of Latin Americans and Eastern Europeans for the N05A class ($P<0.05$).

increasingly becoming available, although not always pointing to the same conclusions. Although post-traumatic stress disorder is known to be significantly more common among migrants than in the age-matched general population (Fazel *et al.*, 2005), we do not exactly know how relevant other mental disorders are in this population. This occurs, for example, for depression. Excluding studies with low numbers of participants and clear selection biases (Saraga *et al.*, 2013), different authors have found that many factors play a role in the epidemiology of this disorder in migrants. These include, among others, sex differences, visa status, premigration and postmigration factors and neighbourhood density (Steel *et al.*, 2011; Arévalo *et al.*, 2015; Esmeyer *et al.*, 2015).

In our study, we evaluated the use of different classes of psychotropic medicines by different ethnic groups of migrants compared with natives in the same condition of poverty, the role of the latter thus being the same for all the groups. Our main findings are that the percentage of individuals using this type of medicines is lower among migrants than among Italians and that individuals on such treatment require the same amount of DDD. This is somehow unexpected on the basis of the few available studies in undocumented migrants. For example, it has been shown that undocumented migrants in Germany report significantly worse mental health than natives and residents from USA, suggesting the conclusion that living without legal status has a negative effect on physical and mental well-being (Kuhene *et al.*, 2015). Other workers have pointed out that depression is more common among first-generation migrants, especially among those born outside of Europe (Arévalo *et al.*, 2015). This interesting study was carried out using registers from the European Social Survey 2006/2007 in 20 European countries. Although Italy was not included and the population was composed of regular migrants, we expected that the conclusions could fit, at least in part, also our population of undocumented migrants, but this was not the case. Other workers found different results; for example in the Aragon region, Spain, depression was found to have a low prevalence among migrants, especially Eastern Europeans. However, the authors underline the possible role of many biases, mainly because of sex distribution; moreover, they do not define the percentage of undocumented individuals in their population of migrants (Esmeyer *et al.*, 2015). Australian researchers have found

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that psychiatric symptoms of migrants are significantly reduced when they receive the right to work and gain access to healthcare (Hocking *et al.*, 2015).

Canadian researchers have reported that the prevalence of mental problems is lower on arrival, but with time, it becomes comparable to that of the native population (Kirmayer *et al.*, 2011). These data appear to be more in agreement with ours, which seem to lend more importance to poverty than to the status of the migrant itself. However, we also have to consider that the greater percentage of natives using psychotropic medicines can be partly because of social and cultural biases; for example, migrants with poor language proficiency could have limitations in expressing their mental distresses and therefore receive fewer prescriptions of this type; this does not seem to occur with other chronic diseases (Fiorini *et al.*, 2016). Another interesting point is that, although mental diseases are usually chronic, both natives and migrants have a very low count of DDDs per patient. This seems to reflect a very poor adherence to treatment and could be because of the fact that the population of our study is not residential and therefore escapes regular follow-up.

We are aware that the limited size of our sample may represent a limitation of this study. However, it should be considered that this is a very unstable population and therefore larger samples are extremely difficult to obtain. Moreover, our sample, although small, is representative of all the ethnicities of undocumented migrants living in Italy.

Despite these limitations, we believe that our results have to be taken into account when planning targeted public mental health interventions; this appears to be very important, owing both to the increasing poverty and the continuous growing population of undocumented migrants in many EU countries.

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Conflicts of interest

There are no conflicts of interest.

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