

Original Article

Differences in Psychiatric Morbidity based on Nationality: Results from an Analysis on the Psychiatric Interviews of Outpatient Unit of Aiginiteio Hospital Athens, Greece

Nasim Aouant, RGN, MSc

Epsom and St Helier University Hospital London, U.K

Olga Velentza, RN, MSc

Aiginiteio Hospital, Athens, Greece

Correspondence: Olga Velentza, Address: University HOSPITAL of ATHENS Aiginiteio, Vassilissis Sofias Ave. 72-74, Athens, Attiki, 11528 e-mail: olyvelen@gmail.com

Abstract

Background: Immigration is considered as a risk factor for the development of a variety of psychiatric disorders, such as depression and psychotic disorders. In Greece, a reasonable proportion of those leaving in the country are non-native. However, there is no evidence concerning a different psychiatric profile for the immigrants as compared to the country's native population.

Aim: To investigate differences in psychiatric-related parameters between Greeks and immigrants.

Methods: This research uses a comparative study design between a sample of native (N=110) and non-native referrals (N=440) undergoing a standard psychiatric interview in a publically accessed hospital in Athens. The differences between those two groups regarded previous psychiatric history, psychotropic medication use prior to the interview, main reason for coming, psychiatric admission, symptoms' management, admission sign, previous and current psychiatric diagnosis.

Results: There was a strong statistically significant difference between the two groups ($p=0.000$) regarding previous psychiatric history, psychotropic medication use prior to of interview, main reason for coming, psychiatric admission, previous and current psychiatric diagnosis. No differences were noted regarding symptoms' management ($p=0.542$) and admission sign ($p=0.659$).

Conclusions: The findings of this study indicate that the immigrants living in Greece have different psychiatric supportive care needs compared to the native population. For that reason, changes in health policy in order to cover the differentiated supportive care needs of that population are essential.

Key-words: Greece, health policy, immigration, interview, mental health, morbidity, psychiatry

Introduction

During the last decades of the 20th and the beginning of the 21st century, the social structure of the nation-state is being disserted, partially due to the increase in immigration and massive population movements from one place to another (Apyrshchenko 2013).Recent immigration differs from that occurring in previous centuries, since in modern times the main reasons of immigration are conflicts, war and instability in the country of origin (Castles 2003). Apart from the sociological examinations, from a psychiatric perspective, immigration is associated with

increased risk of morbidity for the immigrants. Numerous studies in different parts of the world have investigated the aggravating effect of immigration on mental health, reporting an increased incidence of several psychiatric disorders, such as depression and psychotic disorders (Bas-Sarmiento et al. 2017).It could be supported that the difference in psychiatric morbidity between immigrants and the native population has two main explanations. First, according to the theory developed by Oberg, adapting to a new cultural environment is a highly stressful experience (Oberg 1960).Second,

in many cases the immigrant is exposed to violence in the country of origin prior to immigration (Castles 2003). Hence, the immigrant is subjected to acute stress in the country of origin and chronic stress after arriving to a new country. The increase in psychiatric morbidity could be attributed to those factors. Yet, research in immigrant populations faces serious obstacles, due to the heterogeneity of “immigrants” as a population. Indeed, since the characteristics between each immigrant sample might be totally different from another (e.g. reasons for immigration, religion etc.), it would not be sensible to generalize findings from one context to another. According to scientific realism, carrying out a subsequent research in a different cultural context is essential when hypothesizing that a relationship reported in another content accounts for the content under study was well (Robson 2002).

Regarding immigration research in general, investigating the psychiatric disease burden associated with this process is essential not only in order to cover the researchers’ need for extensive knowledge on that phenomenon, but also to be taken into consideration from health policy makers. In case that the immigrants have different psychiatric supportive care needs from the native population, this will highlight the need for appropriate modifications in the provision of mental health services from local hospitals, in order to cover the differentiated supportive care needs (Machleidt et al. 2007). In Greece, a reasonable proportion of those living in the country are immigrants, since it has been estimated that about one per ten of people is non-native (Cholezas and Tsakloglou 2008). Nevertheless, no studies have investigated mental health parameters of immigrants living in Greece in comparison to the native population.

The only relevant study exploring psychiatric morbidity found no differences between immigrant and native children (Anagnostopoulos et al. 2004). To date, no study is identified reporting a difference in psychiatric morbidity between Greek and immigrant adults. In that context, the aim of the specific study was to investigate a potential difference in psychiatric morbidity between a sample of native and immigrant referrals to the mental health services of a publicly accessed hospital in Athens, Greece.

Methodology

Study design: This study regards a secondary analysis of existing data using a cross-sectional comparative design. Comparative designs are useful to investigate a potential difference between two groups defined through the different values of a dichotomous variable (Robson 2002). In this study, the participants’ nationality was used as a dichotomous variable (native/immigrant). As for the theory of secondary analysis, it regards the analysis of pre-existing data when for some reason a new round of data collection is impossible or can be avoided (Cheng and Phillips 2014). In this case, the authors used pre-existing data collected through the standard psychiatric interview used in the outpatient unit of Aiginiteio hospital.

Sample characteristics: Since this study used a secondary analysis of regular health service users, no inclusion and exclusion criteria could be retrospectively applied. In addition, the absence of specific inclusion and exclusion criteria was deemed essential, in order to avoid the analysis of a sample of specific characteristics, restricting the generalizability of the results. All participants were adults, voluntary referrals.

Measures: The sociodemographic data extracted from the patients’ medical files concerned age (years), gender (male/ female), occupational status (employee/ merchant/ self-employed/ not working/ other), family status (single/ married/ divorced/ widowed) and number of children. The data also included the following psychiatric-related variables: previous psychiatric history (yes/ no), psychotropic medication use prior to the interview (regularly/ periodically/ at the past/ never), main reason for coming (Aggressive behavior/ Self-harming behaviors/ Delusions/ Hallucinations/ Drug use/ Alcohol abuse/ Conversion symptomatology/ Confusional state/ Conduct disorder/ Somatic complaints/ Severe anxiety/ Psychomotor agitation/ Depression/ Other reasons), symptoms’ management (Instructions/ Medication & instructions), admission sign (yes/ no) and psychiatric admission to different hospitals in Athens (None/ Dromokaition/ Aigineition/ Psychiatric department of general hospital/ Other). The extracted data concerning the previous psychiatric diagnosis concerned the following: Depressive symptomatology, Substance use

disorder, Schizophrenia, Sleep disorders, Anxiety disorders, Psychotic subscription, Obsessive-compulsive Disorder (OCD), Multiple sclerosis, Post-traumatic Stress Disorder (PTSD), Panic disorder, Personality disorder, Schizoaffective disorder, Alcohol abuse, Autism, Affective disorder, Dementia, Neurosis, Bulimia and no disorder. The extracted data also regarded the diagnosis given for the following psychiatric conditions: Depressive symptomatology, Substance use disorder, Anxiety disorder, Schizotypal disorder, Alcohol abuse, OCD, Panic disorder, PTSD, Suicidal ideation, Personality disorder, Sleep disorders, Autism, Anorexia nervosa, Mental retardation, Dementia, Psychosis, Schizophrenia, Affective disorders and no disorder.

Procedures: One-hundred-ten records of Greek and 440 of immigrant referrals were utilized for the study purposes (N=550). These records were randomly selected from the sum of the records of the admitted at the outpatient unit during 2015. All the interviews were carried out on voluntary referrals. The average time length of each psychiatric interview was 40 minutes. The interviews were carried out by four different psychiatrists not involved in the data interpretation and analysis of the present study.

Statistical analysis: The statistical analysis was carried out by the use of the SPSS (version 22) for Windows (SPSS Inc, Chicago, IL). Firstly, a descriptive statistical analysis was carried out regarding the demographic variables of the participants. Those variables were calculated as proportions and absolute values, if categorical, and mean values and standard deviation, in case they were numerical. The analysis of differences between the sociodemographic categorical variables of the study between the two samples was carried out by the use of Chi-square, while the comparison of continuous variables by the use of the Independent Samples T-test. Prior to that test, an analysis was carried out to justify the use of parametric methods, after fulfilling the skewness and kurtosis criteria described by Kim (Kim 2013). Followingly, the difference regarding all the other variables apart from sociodemographic (e.g. diagnosis) between the two samples was estimated using Chi-square. New encoding categories were also developed for previous and current psychiatric diagnosis (yes/no). The statistical significance was set at 0.05 for all the analyses.

Results

The analysis for demographic characteristic differences between the two groups of the study revealed significant differences as for their age, family status and occupational status. No significant differences were noted for gender and the number of children. Further information on differences can be found on **Table 1**. As for the differences regarding psychotropic medication use prior to of interview, previous psychiatric history, main reason for coming, symptoms' management, admission sign and admission, they are presented in **Table 2**. As indicated by the table, all the aforementioned variables differed significantly, with the exception of symptoms' management ($p=0.542$) and admission sign ($p=0.659$). The Chi-square analysis also lead to significant differences concerning the previous ($p=0.000$) and the current ($p=0.000$) psychiatric diagnosis given to the referrals of each of the two groups. These differences presented in detail in Table 3 and 4 respectively. Further, 314 immigrants and 41 natives had no diagnosis, while 126 immigrants and 69 natives had. The differences between those groups differed in a statistically significant degree ($p=0.000$). In addition, 16 and 269 immigrants received no psychiatric diagnosis, while 94 natives and 171 immigrants did. These differences were also statistically significant ($p=0.000$).

Discussion

This is the first study investigating differences in psychiatric morbidity-related parameters based on differences in nationality of adult people living in Greece. Its results demonstrate that Greeks and immigrants have a different psychiatric profile, since they significantly differed regarding all variables except symptoms' management and admission sign. However, a variety of limitations concerning the design of this study downgrade the importance of those findings. A major external validity limitation of the findings is the difference of the characteristics of this specific immigrant population compared to others. The study results have low generalizability, even for other immigrant populations living in Greece. Specifically, the findings should be not generalized to refugees recently arriving in Greece due to the war on Syria. Generally, immigrants from countries with war conflicts have different mental health problems and

mental health utilization from immigrants from counties without war, a difference further limiting the external validity of all studies examining mental health parameters of immigration (Straiton et al. 2016). A further limitation, which is common across studies using hospital records of voluntary referrals, is that these people might experience a higher symptom

burden and disability compared to the non-referrals (Aschengrau and Seage 2014). Hence, this study might examine not necessarily the differences between the native population and immigrants in psychiatric morbidity in general, but that between a sub-population of those two groups which experience a higher symptom burden.

Table 1. Differences of sociodemographic characteristics between the two groups

Characteristic	Greeks (SD)	Immigrants (SD)	P
Age (years)	47.45 (16.52)	38.16 (13.03)	0.001
Number of children	1.55 (0.963)	1.99 (0.968)	0.274
Characteristic	Greeks (%)	Immigrants (%)	P
Family status			
Single	46 (22.7%)	191 (43.4%)	0.021
Married	36 (25.5%)	89 (20.2%)	
Divorced	17 (27.3%)	84 (19.1%)	
Widowed	11 (59.1%)	76 (17.3%)	
Gender			
Male	51 (46.4%)	198 (45%)	0.831
Female	59 (53.6%)	242 (55%)	
Occupational status			
Employee	25 (22.7%)	118 (26.8%)	0.000
Merchant	3 (2.7%)	5 (1.1%)	
Self-employed	2 (1.8%)	14 (3.2%)	
Not working	35 (31.8%)	240 (54.5%)	
Other	45 (40.9%)	63 (14.3%)	

Table 2. Differences of psychiatric-related variables between the two groups

Characteristic	Greeks (%)	Immigrants (%)	P
Previous psychiatric history			0.000
Yes	81 (74.3%)	196 (44.5%)	
No	28 (25.7%)	244 (55.5%)	
Psychotropic medication use prior to of interview			0.000
Regularly	69 (62.7%)	142 (32.3%)	
Periodically	3 (2.7%)	31 (7%)	
At the past	1 (0.9%)	28 (6.4%)	

Never	37 (33.6%)	239 (54.3%)	
Main reason for coming			0.000
Aggressive behavior	2 (1.8%)	10 (2.3%)	
Self-harming behaviors	5 (4.5%)	16 (3.6%)	
Delusions/ Hallucinations	16 (14.5%)	56 (12.8%)	
Drug use	3 (2.7%)	39 (8.9%)	
Alcohol abuse	4 (3.6%)	10 (2.3%)	
Conversion symptomatology	1 (0.9%)	1 (0.2%)	
Confusional state	2 (1.8%)	1 (0.2%)	
Conduct disorder	10 (9.1%)	8 (1.8%)	
Somatic complaints	6 (5.5%)	18 (4.1%)	
Severe anxiety	29 (26.4%)	143 (32.6%)	
Psychomotor agitation	5 (4.5%)	12 (2.7%)	
Depression	16 (14.5%)	84 (19.1%)	
Other reasons	11 (10%)	44 (9.3%)	
Psychiatric admission			0.000
None	17 (28.3%)	372 (84.5%)	
Dromokaition	6 (10%)	20 (4.5%)	
Aiginiteio	3 (5%)	11 (2.5%)	
Psychiatric department of general hospital	14 (23.3%)	32 (7.4%)	
Other	20 (33.3%)	5 (1.1%)	
Symptoms' management			0.542
Instructions	83 (82.2%)	374 (84%)	
Medication & instructions	18 (17.8%)	66 (15%)	
Admission sign			0.659
Yes	19 (17.8%)	66 (15%)	
No	91 (82.2%)	374 (84%)	

Table 3. Previous psychiatric diagnosis

Diagnosis	Greeks (N=110) (%)	Immigrants (N=440) (%)
Depressive symptomatology	23 (20.9%)	30 (6.8%)
Substance use disorder	3 (2.7%)	14 (3.2%)
Schizophrenia	8 (7.3%)	8 (1.8%)
Sleep disorders	0 (0%)	3 (0.7%)
Anxiety disorders	16 (14.5%)	13 (3%)
Psychotic subscription	7 (6.4%)	21 (4.8%)
OCD	0 (0%)	9 (2%)
Multiple sclerosis	0 (0%)	2 (0.4%)
PTSD	0 (0%)	3 (0.7%)

Panic disorder	0 (0%)	5 (1.1%)
Personality disorder	1 (0.9%)	3 (0.7%)
Schizoaffective disorder	0 (0%)	3 (0.7%)
Alcohol abuse	1 (0.9%)	4 (0.9%)
Autism	0 (0%)	1 (0.2%)
Affective disorder	9 (8.2%)	5 (1.1%)
Dementia	0 (0%)	1 (0.2%)
Neurosis	0 (0%)	1 (0.2%)
Bulimia	0 (0%)	1 (0.2%)
No disorder	41 (37.3%)	314 (71.4%)

Abbreviations: OCD, Obsessive-compulsive Disorder; PTSD, Post-traumatic Stress Disorder

Table 4. Psychiatric diagnosis

Diagnosis	Greeks (n=110) (%)	Immigrants (n=440) (%)
Depressive symptomatology	27 (24.5%)	44 (10%)
Substance use disorder	5 (4.5%)	23 (5.2%)
Anxiety disorder	23 (20.9%)	34 (7.7%)
Schizotypal disorder	0 (0%)	15 (3.4%)
Alcohol abuse	1 (0.9%)	3 (0.7%)
OCD	0 (0%)	12 (2.7%)
Panic disorder	1 (0.9%)	9 (2%)
PTSD	0 (0%)	2 (0.5%)
Suicidal ideation	0 (0%)	2 (0.5%)
Personality disorder	1 (0.9%)	2 (0.5%)
Sleep disorders	0 (0%)	2 (0.5%)
Autism	0 (0%)	1 (0.2%)
Anorexia nervosa	1 (0.9%)	1 (0.2%)
Mental retardation	0 (0%)	2 (0.5%)
Dementia	2 (1.8%)	0 (0%)
Psychosis	13 (11.8%)	20 (4.5%)
Schizophrenia	10 (9.1%)	0 (0%)
Affective disorders	9 (8.2%)	1 (0.2%)
No disorder	16 (14.5%)	269 (61.1%)

Abbreviations: OCD, Obsessive-compulsive Disorder; PTSD, Post-traumatic Stress Disorder

Further, there might be a selection bias due to the barriers that several immigrants face accessing the health system. For example, since undocumented immigrants have low access to healthcare they might be underrepresented in the present study sample (Agudelo-Suárez et al.

2012). In addition, the clinical profile of each immigrant population living in the country might be different from another and should have been examined separately as compared to the native population. A relevant study in Spain supports this limitation, since the clinical profile of

immigrants from different regions of the world differed significantly (Qureshi et al. 2013).

Another limitation regarding the study's internal validity is interviewer bias. In general, clinician rated interviews are superior to self-reported instruments, since they provide high quality of response (Robson 2002). However, a potential bias of the interviewer downgrades the trustworthiness of these measurements (McBee and Justice 1977). This type of bias could be strongly affected by the cross-cultural nature of the psychiatric interviews analyzed in this study, since cross-cultural barriers affect the accuracy of a psychiatric diagnosis (Alarcón 2009). Hence, the difference between the cultural background of the interviewer and the interviewee should be regarded as a limitation. In addition, there were significant differences in sociodemographic variables, such as age, which might have a confounding effect on the differences noted. To overcome this barrier, future studies should compare the differences between Greek and immigrant referrals after matching the participants for their age and occupational status. From a methodological perspective, matching is considered to debar the external validity of the results and is suggested to be avoided in most cases (Choi et al. 1984). Yet, the results of this study indicate that matching is essential, since age and occupational status were highly significant divergences between the two groups of this study ($p= 0.001$ & 0.000 respectively). Future studies should also examine differences on mental health outcomes based on the degree of acculturation in Greece. It is possible that those higher in acculturation might have a more similar clinical profile with the native population as compared to immigrants with low or no acculturation. This hypothesis is driven from studies relating the process of acculturation with lower psychological symptoms and a higher quality of life for the immigrants (Nap et al., 2015; Bulut et al. 2016). Another interesting scope for research in that field regards the report of the relative risk of immigration on different psychiatric disorders as compared to the general population of the country. This study did not focus on reporting the aggravating effect and differencing regarding the hazard of immigration on mental health, but differences among referrals to psychiatric services. Population based studies would be an appropriate research design trying to compare the

difference in mental health burden between immigrants and the native population. Studies should also examine differences between first- and second-generation immigrants as compared to the native population, since their psychiatric morbidity differs in a significant manner (Cantor-Graae et al. 2007 ; Morawa et al. 2014). The results of the present analysis should be taken into consideration while re-designing the country's health policy concerning this issue. In general, the Greek National Health System has undergone major transformations during the era of financial crisis in order to increase its efficacy (Simou and Koutsogeorgou 2014). The findings of the present study should be taken into consideration, since highlighting that immigrants have different mental health needs compared to the native population might redirect the nature and scope of interventions regarding the delivery of mental health services to them. This issue should draw the attention of health policy makers, since there is evidence supporting that during periods of economic crisis, immigrants face additional barriers in health system accessibility (Porthé et al. 2016). Finally, it should be noted that the results of this study support the equity in treatment provided by the national health system of the country regardless of the referrals' nationality, since Greeks and immigrants did not differ concerning symptoms' management and admission sign.

Conclusions: As supported by the findings of this study, immigrants differ as for their psychiatric-related morbidity as compared to the native population. Yet, a variety of limitations downgrades the trustworthiness of these results. Since immigration is regarded as a major challenge of the 21st century, future research on the mental health of immigrants should be intensified.

Acknowledgments: The authors appreciate the valuable contribution of all the psychiatrists interviewing participants included in this study.

References

- Agudelo-Suárez AA, Gil-González D, Vives-Cases C, Love JG, Wimpenny P, Ronda-Pérez E. (2012), A metasynthesis of qualitative studies regarding opinions and perceptions about barriers and determinants of health services' accessibility in economic migrants. BMC Health Serv Res. 2012; 12:461.

- Aschengrau A, Seage GR. (2014), *Essentials of Epidemiology in Public Health*, Third Edition. Jones & Bartlett Learning: 2014.
- Alarcón RD. (2009), Culture, cultural factors and psychiatric diagnosis: review and projections. *World Psychiatry*. 2009; 8(3):131-9.
- Apryshchenko VY. (2013), The mythology of nation: The state, nation and immigration processes of late twentieth-early twenty first centuries. *Middle East Journal of Scientific Research*. 2013; 17(12): 1686-1689
- Anagnostopoulos DC, Vlassopoulou M, Rotsika V, et al. (2004), Psychopathology and Mental Health Service Utilization by Immigrants' Children and Their Families. *Transcultural Psychiatry*. 2004; 41(4): 465-486.
- Bas-Sarmiento P, Saucedo-Moreno MJ, Fernández-Gutiérrez M, Poza-Méndez M. (2007), Mental Health in Immigrants Versus Native Population: A Systematic Review of the Literature. *Arch Psychiatr Nurs*. 2017; 31(1): 111-121.
- Bulut E, Gayman MD. (2016), Acculturation and Self-Rated Mental Health Among Latino and Asian Immigrants in the United States: A Latent Class Analysis. *J Immigr Minor Health*. 2016; 18(4):836-49
- Castles S. (2003), Towards a Sociology of Forced Migration and Social Transformation. *Sociology*. 2003; 37(1): 13-34.
- Cantor-Graae E, Pedersen CB. (2007), Risk of schizophrenia in second-generation immigrants: a Danish population-based cohort study. *Psychol Med*. 2007; 37(4):485-94.
- Cholezas I, Tsakoglou P. (2008), The Economic Impact of Immigration in Greece: Taking Stock of the Existing Evidence. *Journal of Southeast European and Black Sea Studies*. 2008; 9: 1-2.
- Choi BC, Howe GR. (1984), Methodological issues in case-control studies: II. Test statistics as measures of efficiency. *Int J Epidemiol*. 1984; 13(2):229-34.
- Cheng HG, Phillips MR. (2014), Secondary analysis of existing data: opportunities and implementation. *Shanghai Arch Psychiatry*. 2014; 26: 371-375.
- Kim HY. (2013), Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restor Dent Endod*. 2013; 38(1): 52-4.
- Machleidt W, Behrens K, Ziegenbein M, Calliess IT. (2007), Integration of immigrants into the mental health care system in Germany. *Psychiatr Prax*. 2007; 34(7):325-31.
- Morawa E, Erim Y. (2014), Acculturation and depressive symptoms among Turkish immigrants in Germany. *Int J Environ Res Public Health*. 2014; 11(9):9503-21.
- McBee GW, Justice B. (1977), The effect of interviewer bias on mental illness questionnaire responses. *J Psychol*. 1977; 95(1st Half):67-75.
- Nap A, van Loon A, Peen J, van Schaik DJ, Beekman AT, Dekker JJ. (2015), The influence of acculturation on mental health and specialized mental healthcare for non-western migrants. *Int J Soc Psychiatry*. 2015; 61(6):530-8.
- Oberg K. (1960), Culture shock: Adjustment to new culture environments. *Practical Anthropology*. 1960; 7, 182-197
- Porthé V, Vargas I, Sanz-Barbero B, Plaza-Espuña I, Bosch L, Vázquez ML. (2016), Changes in access to health care for immigrants in Catalonia during the economic crisis: Opinions of health professionals and immigrant users. *Health Policy*. 2016; 120(11):1293-1303.
- Robson C. (2002), *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*. 2nd ed. Malden, MA: Blackwell: 2002.
- Straiton ML, Reneflot A, Diaz E. (2016), Mental Health of Refugees and Non-refugees from War-Conflict Countries: Data from Primary Healthcare Services and the Norwegian Prescription Database. *J Immigr Minor Health*. 2016 Jun 21. [Epub ahead of print]
- Simou E., Koutsogeorgou E. (2013), Effects of the economic crisis on health and healthcare in Greece in the literature from 2009 to 2013: a systematic review. *Health Policy*. 2014; 115(2-3):111-9.
- Qureshi A, Collazos F, Sobradiel N, et al. (2013), Epidemiology of psychiatric morbidity among migrants compared to native born population in Spain: a controlled study. *Gen Hosp Psychiatry*. 2013; 35(1):93-9.