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Dual diagnosis in immigrant patients with alcohol use disorder: 2-years of follow-up treatment

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ABSTRACT

Introduction. There is a high prevalence of comorbid psychiatric disorders in alcohol abuse disorder. The presence of dual diagnosis in patients decreases the maintenance of abstinence and increases the likelihood of relapse, which makes treatment more complicated. The aims of this study are: to investigate the progression along two years of treatment of a sample of migrant patients affected by alcohol abuse disorder associated with psychiatric disorders, comparing it with a sample of migrant patients without dual diagnosis and investigating the diagnoses of comorbid psychiatric pathology with alcohol abuse disorder.

Methods. Two populations of migrant patients with alcohol abuse disorder (DSM-5) were compared, one with comorbid psychiatric disorders consisting of 219 patients and the other of 169 patients without dual diagnosis.

Results and conclusions. The most frequent psychiatric disorders associated with alcohol use disorder are personality disorders (51,6%), adjustment and depressive disorders (22,8%), anxiety disorders (15,5%), eating disorders and obsessive-compulsive disorders (5,9%), bipolar disorders (5%) and schizophrenia (2,3%). The two-year follow-up treatment shows that 27% of immigrant sample with dual diagnosis remains in abstinence compared to 41,4% of those who only suffer from alcohol use disorder: Worse outcomes are observed in patients with dual diagnosis.

Keywords. Dual diagnosis, Immigration, Women`s alcoholism, Follow up alcoholism, Alcohol abstinence, Alcoholic relapse.

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PATOLOGÍA DUAL EN PACIENTES INMIGRANTES CON TRASTORNO POR USO DE ALCOHOL: SEGUIMIENTO TRAS DOS AÑOS DE TRATAMIENTO

RESUMEN

Introducción. Existe una elevada prevalencia de trastornos psiquiátricos en el trastorno por uso de alcohol. La presencia de patología dual en el paciente disminuye el mantenimiento de la abstinencia y aumenta la probabilidad de recaída, lo que complica el tratamiento. Los objetivos de este estudio son: Analizar la evolución a dos años de tratamiento de una población de pacientes inmigrantes con trastorno por uso de alcohol asociado a trastornos psiquiátricos, comparándola con una muestra de pacientes inmigrantes sin patología dual e investigar los diagnósticos de patología psiquiátrica asociada al trastorno por uso de alcohol.

Metodología. Se compararon dos poblaciones de pacientes inmigrantes con trastorno por uso de alcohol (DSM-5), una con trastornos psiquiátricos asociados, compuesta por 219 pacientes y otra de 169 pacientes sin patología dual.

Resultados y conclusiones. Los trastornos psiquiátricos más frecuentes asociados al trastorno por uso de alcohol son el de personalidad (51,6%), el adaptativo y depresivo (22,8%), los de ansiedad (15,5%), los de conducta alimentaria y obsesivos compulsivos (5,9%), el bipolar (5%) y el de esquizofrenia (2,3%). El seguimiento a 2 años de tratamiento presenta que el 27% de la población inmigrante con patología dual se mantiene en abstinencia frente al 41,4% de la que solo padece trastorno por uso de alcohol: Se constata una peor evolución en los pacientes con patología dual.

INTRODUCTION

Dual pathology (DP) is the co-occurrence of a substance use disorder (SUD), such as alcoholism, and a psychiatric disorder in the same individual[1]. The high prevalence of

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substance abuse, which includes alcohol use disorder (AUD), associated with mental disorders and vice versa has been amply studied[2,3,4,5,6]. While the prevalence rate of psychiatric comorbidity in the general population is of 15 to 20%[7,8], in the case of SUD, it is estimated at 15 to 80%[4,9,10,11,12]. This wide range is owed to several factors: the heterogeneity of the studied population, the type of care center where patients are treated (mental health services, penitentiary centers, drug addiction centers), or the type of substance used[12,13]. The presence of DP in the patient reduces the duration of abstinence maintenance[14] and increases the probability of relapse[15,16]; that is to say, it complicates treatment and treatment adherance[17,18], results in a greater number of hospitalizations and a greater functional disability, and increases suicide rates[19,20,21], violence and social problems[22,23,24]. The psychiatric disorders most frequently associated with AUD are anxiety, depression and personality disorders[25,26,27]. A higher occurrence of comorbidity has been described in women[28,29]. Although in time, the manner of drinking grows more similar, men generally drink in public, socially, and with more violent consequences[30,31], while women drink more at home, alone[32], and their drinking is more frequently associated with depression[33].

When, for different reasons, individuals make the decision to leave their country of origin, the objective is that of improving their future in the destination country and, in most cases, also those of the family unit. The path to integration is not always easy and, in many cases, gives rise to a series of important losses: those of identity and self-esteem, of family and friends, or an uprooting from the social customs of the birthplace. In moving from the safety of the familiar to the uncertainty of the foreign, from the protection of what has always been part of the individual to the defensive attitude before what the immigrant might view as threatening in a new and hostile environment, exclusion and hopelessness are the ideal breeding ground for the germination of psychopathological alterations and addictions. These factors have a great relevance to the use or abuse of alcohol on the part of immigrants and the potential creation of a dependence; added factors are the drinking patterns of the destination country that immigrants acquire with time[34], and the amount of alcohol that the individual might have been used to consuming in the country of origin, or the lack of that habit[35]. The principal motive for emigrating is the economic[36], and that is also the case of immigrants in Spain. However, in the receiving country, integration is increasingly more difficult owing to the fact that the immigrants must compete with the native population that faces higher unemployment rates resulting from the economic crisis and, subsequently, COVID-19. If plans for employment fail, immigrants find themselves in a much weaker support system[37], which might significantly contribute to an increase in alcohol consumption[38]. Immigrants have to make intense cognitive efforts in countless attempts of adaptation to the receiving country[39], which give rise to multiple stress conditions; in addition, these occur in a situation of great vulnerability, given that immigrants find themselves in precarious personal and social circumstances: thus, the acculturation stress is a predictive factor respecting the abuse of alcohol and other toxic substances[40,41,42]. A direct relationship has been established between the extreme stress that immigrants might suffer and the development of symptoms of psychopathology[43]. In accordance with the self-medication hypothesis, the patient would be using alcohol in order to alleviate the negative symptoms of his or her psychiatric disorder, such as anxiety or depression[44,45].

Although immigration in and of itself does not originate psychopathology, it may be an important predisposing factor[46].

This study is the continuation of a prior study published in this journal, titled *Trastorno por Uso de Alcohol en pacientes inmigrantes: seguimiento a 2 años de tratamiento* [*Alcohol Use Disorder in immigrant patients: 2-years of follow-up treatment*] (INM) [47].

As on the occasion of that prior study[47], the authors of the present study did not find a bibliography of studies of the follow-up and evolution of dual pathology in immigrants with AUD –either in Spain or in other western countries– that would make it possible to contrast results. However, it is interesting to compare results with another study of this Mental Health Service, also published in this journal, titled *Trastornos psiquiátricos asociados a alcoholismo: seguimiento a 2 años de tratamiento* [*Psychiatric disorders associated with alcoholism: 2 year follow-up of treatment*] (TPS)[29].

The objectives of the present study are the following:

- To compare the evolution of two immigrant patient samples with AUD, one with dual pathology and the other without it, two years after the start of treatment.
- To analyze diagnoses of psychiatric pathology associated with AUD.

METHODS

The study was carried out at the "Puente de Vallecas" Mental Health Service (MHS) in Madrid. In a consecutive sampling process, patients were chosen among those who had requested treatment at the MHS between the years

2000 and 2015, on the basis of the following criteria: a) new patients, derived by Primary Care or the General Hospital of reference, b) patients diagnosed with AUD in accordance with DSM-5[48], c) patients who have completed the alcoholism assessment interview[49], d) patients included in the MHS Alcoholism Program, and e) patients diagnosed with an associated psychiatric pathology, if applicable. The result of this immigrant sample (IMS) consists of 388 patients originating from 27 countries (Table 1). The sample was subdivided in two populations: 219 patients diagnosed with dual pathology (DP) and 169 patients without an associated psychiatric pathology (NODP) (Table 1).

The following social demographic variables are described in the two samples: age, gender, marital status, level of education and employment status.

For each patient in the two samples, the follow-up was carried out in months 1, 3, 6, 9, 12, 15, 18, 21 and 24, in each case, recording whether the patient was maintaining abstinence, has relapsed or abandoned, in a non-cumulative manner with respect to previous moments of observation. A comparative analysis of the state of evolution was carried out in the two samples.

This is a naturalistic and prospective-type study. The Friedman Test was used to carry out an exploratory analysis of the values of the evolution of treatment (abstinence, relapse, abandonment) in the 9 moments of observation (in month 1, 3, 6, 9, 12, 15, 18, 21 and 24). The Friedman Test was also used to analyze the general changes of response in alcohol use (abstinence, relapse and abandonment) throughout the therapeutic intervention at the aforementioned 9 moments (month 1, 3, 6, 9, 12, 15, 18, 21 y 24). The Mann Whitney test was used to evaluate the differences between groups (DP and NODP). The post-hoc comparisons between pairs of observation moments (t1-t3, t3-t6, t1-t6, etc.) were carried out with the Wilcoxon test. A double analysis of the associated psychiatric pathologies was carried out in the DP population. All tests have been considered as bilateral distributions. The significance level was established at the value of $p<0.05$. The data was analyzed with SPSS Statistics 24 software.

For the purpose of this study, relapse refers to a return to continued alcohol consumption and not to occasional consumption without biopsychosocial consequences.

Table 1 Countries of origin

		NOPD (N=169)		PD (N=219)				NOPD (N=169)		PD (N=219)	
COUNTRY	NT	N	%	N	%	COUNTRY	N	N	%	N	%
Ecuador	48	22	45.8	26	54.2	Algeria	9	8	88.9	1	11.1
Peru	31	16	51.6	15	48.4	Romania	46	19	41.3	27	58.7
Bolivia	22	10	45.5	12	54.5	Bulgaria	17	9	52.9	8	47.1
Argentina	12	4	33.3	8	66.7	Poland	26	7	26.9	19	73.1
Dominican Republic	13	3	23.1	10	76.9	France	8	2	25.0	6	75.0
Cuba	15	7	46.7	8	53.3	Italy	9	1	11.1	8	88.9
Uruguay	9	3	33.3	6	66.7	Portugal	8	5	62.5	3	37.5
Venezuela	8	6	75.0	2	25.0	Ukraine	14	3	21.4	11	78.6
Chile	19	7	36.8	12	63.2	Egypt	4	2	50.0	2	50.0
Mexico	9	2	22.2	7	77.8	Lebanon	2	2	100.0	-	-
Paraguay	7	-	-	7	100.0	Palestine	1	1	100.0	-	-
Honduras	8	6	75.0	2	25.0	Syria	2	1	50.0	1	50.0
Colombia	13	4	30.8	9	69.2	Equatorial Guinea	2	1	50.0	1	50.0
Morocco	26	18	69.2	8	30.8	*NODP: No Dual Pathology / DP: Dual Pathology*					

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RESULTS

Of the 388 patients of the INM[47] study, 219 were diagnosed with a psychiatric disorder (DP) of some type, that is to say, 56.44%; no such disorder (NODP) was found in 169 patients, or 43.56%. Table 1 presents the comparative percentages of DP and NODP by country and, although appreciable percentual differences are present in some cases (100% vs. 0% in Paraguay or 77.8% vs. 22.2% in Mexico), the frequencies are too small to obtain significant results. In countries with higher frequencies such as Ecuador, Romania and Peru, the percentages are quite similar in the two populations. Table 2 shows the following: the average age of the NODP population, 46.13, is higher than that of the patients with a psychiatric disorder, 40.21. The DP population contains more women (32.4% as compared to 20.7%). With respect to marital status, the higher percentage of single people among the DP population stands out (34.2% vs. 11.2%) which is logically also reflected in the married part of the population (38.4% vs. 65.1%). With respect to the level of education, two factors stand out: a higher percentage of illiteracy in NODP (14.8% as opposed to 6.8%), and a greater contrast between the DP value of those with secondary education (21%) as compared to the 7.7% in the NODP population. In the category of employment status, the high level of unemployment in the DP population stands out (30.6% vs. 18.3%), as does the large proportion of women who are housewives in the DP population, which we understand correlates with a large part of the population in this category, given that the distribution of the female gender with psychiatric pathology is almost double that of the male population (19.6% versus 10.7%).

Table 2 Sociodemographic characteristics of the NOPD and the PD

		NOPD	PD
		N = 169	N = 219
Age	Mean	46.13	40.21
	Standard deviation	11.091	11.266
	Range	48	50
	Mode(s)	53 años (N= 12)	32 años y 44 años (N=14)
	Minimum	26	18
	Maximum	74	68
Gender			
	Males	134 (79.3%)	148 (67.6%)
	Females	35 (20.7%)	71 (32.4%)
Civil Status			
	Single	19 (11.2%)	75 (34.2%)
	Married	110 (65.1%)	84 (38.4%)
	Separated/ Divorced	24 (14.2%)	50 (22.8%)
	Widowed	16 (9.5%)	10 (4.6%)
Education			
	Illiterate	25 (14.8%)	15 (6,8%)
	No studies	48 (28.4%)	64 (29,2%)
	Primary studies	76 (45.0%)	82 (37,4%)
	Secundary studies	13 (7.7%)	46 (21,0%)
	University	7 (4.1%)	12 (5,5%)
Employment Situation			
	Active	101 (59.8%)	80 (36.5%)
	Unemployed	31 (18.3%)	67 (30.6%)
	Retired	19 (11.2%)	16 (7.3%)
	Housewife	18 (10.7%)	43 (19.6%)
	Student	0 (0%)	13 (5.9%)

NOPD: No Dual Patology / PD:Dual Patology

The follow-up of patients in the two years following the start of treatment shows that 41.4% of the NODP sample maintains abstinence when treatment concludes. This contrasts with the percentage of abstinence in the DP sample (27%). The difference in these percentages in the two samples is statistically significant (X^2=7.85; df=1; p=0.005). The percentages of relapse are similar for both groups up until month 15; starting at that moment, statistically significant differences are observed in comparing the two groups, with a greater number of relapses in the DP sample (X^2=12.244; df=1; p=0.000) (Table 3). With respect to abandonment, the percent values for each follow-up period seem low, with a very small difference at 24 months (58.6% for NODP vs 59.4% or DP) (Table 3). In the comparison of the two samples, these differences are not statistically significant at any of the months of follow-up observations. Thus, it may be concluded that adherence (patients who continue in treatment, independently of their condition with respect to alcohol; that is to say, abstinence + relapse) in the follow-up of both samples is very similar (41.4% in NODP vs 40.7% in DP), although the potential for success is greater for the NODP group, especially as of month 15. The variations observed between the two groups when evaluating the influence of the gender variable should be pointed out, with statistically significant differences in the level of abstinence between the NODP group (47% in males and 20% in females at the end of treatment; X^2=8.347; df=1; p= 0.004) and the DP group (21% in males and 40.8% in females; X^2=8.823; df=1; p=0.003). The high rate of abandonment in the sample of men diagnosed with DP is striking, with a statistically significant difference when compared to that of women, in all months of follow-up (p<0.01). In follow-up month 24, a total of 100 abandonments is observed in men (67% of the men who began treatment), as compared to 30 in women

Table 3 Evolution of the NOPD and the PD throughout the treatment process

		N=388				
		NOPD (N=169)		PD (N=219)		
MONTH		Frequency	Percentage	Frequency	Percentage	χ^2 Pearson
1	Abstinence	73	43.2%	89	40.6%	,756
	Relapse	69	40,8%	89	40,6%	
	Abandonment	27	16,0%	41	18,7%	
3	Abstinence	78	46,2%	83	37,9%	,230
	Relapse	54	32,0%	76	34,7%	
	Abandonment	37	21,9%	60	27,4%	
6	Abstinence	73	43,2%	78	35,6%	,312
	Relapse	46	27,2%	66	30,1%	
	Abandonment	50	29,6%	75	34,2%	
9	Abstinence	70	41,4%	80	36,5%	,332
	Relapse	33	19,5%	37	16,9%	
	Abandonment	66	39,1%	102	46,6%	
12	Abstinence	65	38,5%	71	32,4%	,345
	Relapse	19	11,2%	33	15,1%	
	Abandonment	85	50,3%	115	52,5%	
15	Abstinence	67	39,6%	61	27,9%	,001
	Relapse	8	4,7%	35	16,0%	
	Abandonment	94	55,6%	123	56,2%	
18	Abstinence	69	40,8%	66	30,1%	,000
	Relapse	1	0,6%	23	10,5%	
	Abandonment	99	58,6%	130	59,4%	
21	Abstinence	69	40,8%	63	28,8%	,000
	Relapse	1	0,6%	26	11,9%	
	Abandonment	99	58,6%	130	59,4%	
24	Abstinence	70	41,4%	61	27,9%	,000
	Relapse	0	0%	28	12,8%	
	Abandonment	99	58,6%	130	59,4%	

(42% of the total of women patients). This difference of 25% greater abandonment on the part of males with DP is statistically significant from month 1 (X^2_{t1}=8.823; df_{t1}=1; p_{t1}=0.020. X^2_{t24}=12.745; df_{t24}=1; p_{t24}=0.000), with a variation of 43 subjects between t1 and t24. This also contrasts with the opposite tendency in the NODP sample, where the greatest level of abstinence occurs in the male sample, with statistically significant differences in every month of follow-up ($p<0.01$).

Going deeper into the composition of the analyzed DP sample (figure 1), the highest comorbidity of alcohol dependence occurs with respect to adjustment disorders and depression (22.8% each), personality disorder (21%) and anxiety disorder (15.5%). The obsessive-compulsive disorder (OCD) and eating disorder (ED) have the value of 5.9%, 5% for bipolar (BD), and 2.3% for schizophrenia. Personality disorder as a second diagnosis comes to 30.6%; added to the percentage of the disorder as the main diagnosis, the value rises to 51.6%. In all analyzed disorders, the percentage of men is higher than that of women, with the exception of the 100% of the 10 cases diagnosed with ED. Starting in month 12, statistically significant differences are appreciated in comparing the level of abstinence of the subsamples resulting from a division by comorbid categories (X^2=15.890; df=7; p=0.026), with the highest values in those diagnosed with depression (21.1%), adjustment (19.7%) and anxiety (19.7%) disorders. The degree of relapse is statistically significant

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as of month 21 (X^2=18.021; df=7; p=0.012), especially for patients diagnosed with depression (34.6%) and personality disorder (15.4%). Statistically significant differences in the rate of abandonment depending on the diagnoses are observed starting in month 15 (X^2=14.239; df=7; p=0.047). The figures for the subsample of patients diagnosed with adjustment disorder (27.6%) and personality disorder (26%) stand out, followed by depression disorder (20.3%) and anxiety (14.6%). The results become more significant in month 18 (X^2=18.021; df=7; p=0.012). In an analysis by diagnosis group, a statistically significant level of abstinence is only obtained in month 12 in patients diagnosed with bipolar disorder (X^2=5.151; df=1; p=0.023) and personality disorder (X^2=6.003; df=7; p=0.014).

DISCUSSION

In this study of immigrant patients, the difference between DP and NODP patients is that patients in the former group are somewhat younger, include a larger percentage of women, more single people, have higher level of education and worse employment situation. Earlier findings with respect to dual pathology patients have found that they are younger and with a higher percentage of single and unemployed people[50,51]. In addition to the characteristic of possessing a higher level of education, it is noteworthy that these results agree with our TPS[29]. Furthermore, there is greater comorbidity in women with AUD[28,51], as well as in immigrants (32.4% in this study; 47% in TPS[29]). These figures contrast with patients with AUD and no dual pathology (20.7 % in this study; 10.56% in TPS[29]). An analysis of AUD in immigrant patients that does not distinguish between dual pathology and lack thereof results in 27.9%[53]; in general studies at this MHS, the results are: 10.63[54], 10.33%[55], 14.17%[56]; 16% is the result in yet another general study[28].

In the present study, in the follow-up 2 years after start of treatment, patients in the NODP sample have a more positive evolution that those in the DP sample.

In the INM[47]study, at 24 months abstinence is of 33.8%, a higher value than that of abstinence in the DP sample (27.9%), but it is noteworthy that it is practically equal to that of the population with psychiatric disorder associated to alcoholism in the TPS[29] study (28%). In other general studies at this MHS the results have been: 39.67%[55] and 51.67%[56]. With respect to relapses, there is a surprisingly high percentage of patients in the two samples who relapse in the early months: approximately 40% in the very first month, which contrasts with the TPS[29] study, where that result was 28%. Logically, as time goes by, the relapses diminish; above all, owing to the greater number of abandonments and the consolidation of abstinence in those patients who are more motivated and conscientious with respect to overcoming their illness. In both samples, abandonment –the aspect of the entire addiction program where most work is necessary– is of approximately 60%, similar to the figure in the TPS[29]study (62%); in other general studies at this MHS, the figures are 54%[55] and 35.83%[56]. Treatment adherence, of approximately 41% in both samples, is also very similar to that in the TPS[29] study (38%) but is substantially lower than in other general studies at this MHS, where the figures are 49%[55] and 64.17%[56].

It proceeds from the above that abstinence, abandonment and adherence are similar in both the TPS[29] and the current study, but have a worse evolution in time than in other general studies at this MHS.

Figure 1 shows psychiatric comorbidity associated with AUD resulting from this immigrant patient study. The distribution of each of the diagnoses associated with AUD is analyzed below.

Depressive disorder is one of the psychiatric disorders that is more frequently associated with SUD[57,58], with a prevalence that can range between 12 and 80%[25]. This comorbidity has been linked to a negative evolution of both disorders and an unfavorable prognosis[59,60]. The self-medication hypothesis suggests that this type of patient uses alcohol to alleviate the symptoms of depression[4]. In this study, depression associated

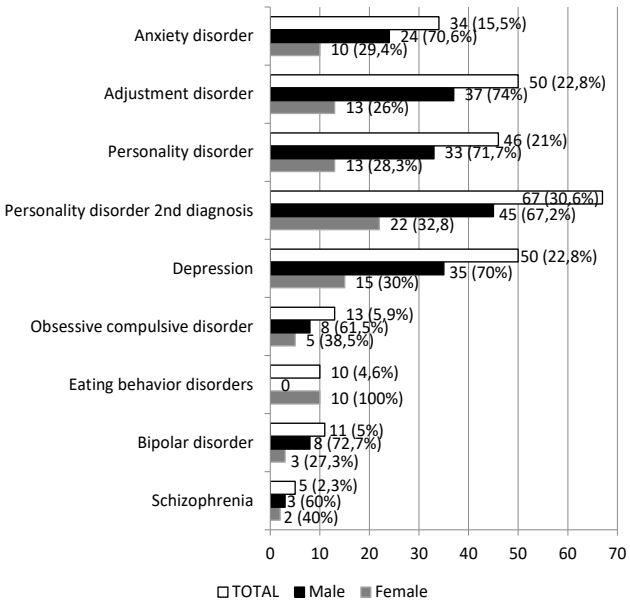

Figure 1 Psychiatric diagnosis associated with alcoholism

with AUD reaches the value of 22.8%, very similar to that of the TPS[29] study (22%). However, unlike in other studies[33,61,62,63,64,65], in which women with an alcohol dependence suffer from depression more frequently than men, in this study, depression in women is of 30%, while it is 70% in men. This suggests the need for a specific study focusing on this circumstance. Depression disorder is strongly associated with immigration, especially owing to the pain of personal loss and the uprooting suffered by immigrants[46,66].

Like depression, anxiety is one of the psychiatric disorders most frequently associated with AUD[27,51] in which the hypotheses of self-medication to alleviate the undesirable symptoms might also be important and the prognosis of both types of disorder might worsen[67,68]. In the reviewed studies, it oscillates between 19.4%[4] and 55%[69]. In this study, anxiety disorder is of 15.5 % (70.6% in men vs. 29.4% in women), similar to the 18% obtained in the TPS[29] study. Continued stress during a certain period of life might be a predisposing factor for the consumption of addictive substances[70]. Thus, immigrants who find themselves in the process of adaptation to the receiving country can suffer levels of intense stress that might produce anxiety[43,71].

With respect to personality disorders, the prevalence of comorbidity of SUD oscillates between 65% and 90%[72]; with respect to alcohol, it ranges between 40% and 50%[8]. Impulsive behavior and the search for novel sensations are the most characteristic personality features that might help predict future problems with alcohol[73,74]. Similarly, the complexity of this type of patients leads to unfavorable diagnoses, where relapses and abandonments are frequent[75]. In this study, this refers to 21% of patients with AUD and personality disorder as the first diagnosis (71.7% in men vs. 28.3% in women), which is an increase with respect to the TPS[29] study, where the figure was of only 8%. As the second diagnosis, personality disorder reaches 30.6% (67.2% in men vs. 32.8% in women), as compared to 22% in the TPS[29] study. Adding together personality disorder as the first and second diagnosis, this study results in 51.6% as compared to the 30% of the TPS[29] study. The difference of the total percentage in the general study and the study of immigrant patients is a striking 21.6%. Other studies focusing on comparing these data would be in order.

In the current study, eating disorders (ED) represents 5.9% of the total of immigrants with DP –all women–, while in the TPS[29] study, that figure was of 2%. Approximately 30% of the patients with ED have an SUD; on the other hand, 15%-56% of the women with SUD have and ED TCA[76]. The prevalence of this type of disorder associated with alcohol is most frequent for bulimia nervosa[77]. For these reasons, it is indispensable to systematically evaluate patterns of alcohol use in all cases of ED[78].

In this study of immigrant patients, schizophrenia is at the level of 2.3% (60% in men vs. 40% in women); that value was 11% in the TPS[29] study. There is a greater comorbidity of schizophrenia among alcoholics (3.8%) than in the general population (1.5%)[4]. The treatment of patients with serious mental health disorders along with an associated AUD has an added complexity: not only do the patients fail to follow the instructions of the prescribed medication, they also suffer a significant psycho-organic deterioration, great difficulty in of access to social support services or greater assistance in the emergency health centers. Generally, this type of patients frequently experiences stressful situations, which are already more common among the immigrant population.

The prevalence of obsessive-compulsive disorder (OCD) in the general population is of 1%-2.5%[79,80]. In this study, patients affected by OCD represent 5.9%, as compared to 6% in the TPS[29] study. Some authors have pointed to neurobiological mechanisms common both to OCD and addictions[81]. There is evidence that OCD favors a greater incidence of AUD[82], and that the presence of obsessive-compulsive symptoms has been reported in patients with an alcohol dependence[83]. The hypothesis of self-medication to alleviate the discomfort brought about by the disorder has also been proposed with respect to OCD. Similarly, it has been reported that OCD is under-diagnosed in AUD, suggesting that a detailed psychopathology evaluation would be necessary for a correct treatment[84].

Bipolar disorder (BD) is an Axis I mental disorder that is more frequently associated with SUD[85,86]. The prevalence of AUD in BD is estimated at approximately 35%[87]. In this study, the percentage of BD in the sample with a psychiatric disorder is of 5% (72.7% in men and 27.3% in women); the value is 9% in the TPS[29] study. This type of comorbidity involves a high risk of treatment noncompliance[88], more relapses of the condition and a higher probability of suicide[89]. Various studies indicate that a patient with a BP consumes more alcohol in the manic phase tan in the depressive phase[90,91]. Similarly, the hypothesis of self-medication to alleviate the symptoms seems to be very admissible.

At mental health services, adjustment disorders are one of the most frequent diagnoses in immigrant patients[92]. In this population, emotional or behavioral symptoms may appear owing to identifiable stress factors, such as precarious employment, social marginalization or racial discrimination. The prevalence in the general population at mental health services is of 5-20%[48]. In this study of immigrant patients, this prevalence is of 22.8 % (74% in men vs. 26% in women); it is 24% in the TPS[29] study, the percentages of the two studies being similar.

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The reasons for the lack of ADHD diagnoses in this immigrant population might be the same as those stated in the TPS[29] study; that is to say, a tendency to under-diagnose ADHD in daily clinical practice with adult patients, or the fact that patients with other associated addictions are not admitted into our alcoholism program (with the exception of those of tobacco use and pathological gambling). It is widely known that patients with ADHD have a tendency to develop alcoholism, but it appears associated mostly to other addictions[93].

In conclusion, in this study of an immigrant population after 2 years of follow-up, patients with AUD and associated psychiatric disorders have a poorer evolution than those who do not have a dual pathology; that evaluation is also worse than in the general study with similar characteristics. In addition, psychiatric disorders that are more frequently associated with AUD in immigrant patients are depressive, adjustment, anxiety and personality disorders, although the latter presents striking percentage differences with respect to the aforementioned general study.

A high percentage of patients with dual pathology might not be adequately diagnosed[5], which would imply that comorbid disorders are not being treated in the appropriate manner[94]. These patients, often with serious and complex conditions, require attention from both the health and the social systems[13]. In the case of immigrant patients affected by psychopathological disorders associated with AUD, treatment is further complicated by the heterogeneity of their origin, culture and the difficulty of access to social and health services, which frequently obstructs therapeutic treatment. Therefore, there is a need to develop programs of specific intervention, in addition to the need to better adapt psychiatric care services with the objective of improving therapeutic efficacy for this type of population.

The authors would like to reiterate that no bibliography of a similar nature to this study has been found in reference to immigrant patients with a pathology associated to alcohol use disorder that would make it possible to compare the results obtained in this study, essentially of an exploratory nature from the point of view of clinical efficiency. Further studies on this subject would be necessary to contrast the results. For this reason, the authors believe that the present study contains aspects of innovation.

CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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