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Alcohol Use Disorder in immigrant patients: 2-years of follow-up treatment

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SUMMARY

Introduction. In recent decades the immigrant population has increased significantly in Western countries, which not only influences the former culturally but also in their alcohol consumption patterns. The course of immigration can cause social stress, which can lead to uprooting, frustration of their expectations or marginality, which are risk factors for an increase in alcohol consumption, possibly in order to face their different problems. The aims of this study are: to investigate the progression along two years of treatment of a sample of immigrant patients with Alcohol Use Disorder, to compare it with a sample of Spanish natives and to analyze the evolution of immigrant patients according to the geographical area of origin.

Methods. Two samples of individuals with Alcohol Use Disorder (DSM-V) were compared: one sample of 388 immigrant patients and a control sample composed of 262 Spanish patients. Likewise, the patients were studied according to the geographical area to which they belong.

Results and conclusions. 45.4% of patients in the Spanish sample remain in abstinence after 2 years of treatment compared to 33.8% in the immigrant sample. Patients who achieve greater abstinence are those of Arab origin (52.3%). However, there is a better adherence in South America/Southern Cone (67.7%). The countries with the worst outcomes in abstinence are those in South America/Northern countries (26.2%) and those in Eastern Europe (29.1%).

Keywords. Immigration, Women's alcoholism, Follow up alcoholism, Alcohol abstinence, Alcoholic relapse.

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TRASTORNO POR USO DE ALCOHOL EN PACIENTES INMIGRANTES: SEGUIMIENTO A 2 AÑOS DE TRATAMIENTO

RESUMEN

Introducción. En las últimas décadas, la población inmigrante ha aumentado sensiblemente en los países occidentales, que no solo les influye culturalmente también en su patrón de consumo de alcohol. El transcurso de la inmigración puede originar estrés social, que es posible que cause desarraigo, frustración de sus expectativas o marginalidad, que son factores de riesgo para un aumento del consumo de alcohol, posiblemente con el fin de afrontar sus diferentes problemas. Los objetivos de este trabajo son: investigar la evolución a dos años de tratamiento de una población de pacientes inmigrantes con Trastorno por Uso de Alcohol, comparándola con una muestra de origen español, y analizar la evolución de los pacientes inmigrantes según el área geográfica de origen.

Metodología. Se compararon dos poblaciones con Trastorno por Uso de Alcohol (DSM-V), una de inmigrantes compuesta por 388 pacientes y otra de control, de origen español, compuesta por 262 pacientes. Asimismo, se estudió la evolución de los pacientes según el área geográfica a la que pertenecen.

Resultados y conclusiones. El 45,4 % de los pacientes de la población española se mantiene en abstinencia a los 2 años de tratamiento frente al 33,8 % de la población inmigrante. Los pacientes que consiguen una mayor abstinencia son los de origen árabe (52,3 %). Sin embargo, hay una mayor adherencia en América del Sur/Cono Sur (67,7 %). Los países que tienen una peor evolución en la abstinencia son los de América del Sur/Países del Norte (26,2 %) y los que proceden de Europa Oriental (29,1 %).

Palabras clave. Inmigración, Alcoholismo en la mujer, Evolución alcoholismo, Abstinencia alcohólica, Recaída alcohólica.

INTRODUCTION

Since the beginning of humanity people migrations are a fact. They are nothing new, nonetheless, they have increased in a considerable manner since the start of the industrial age¹. In addition to the involuntary migration of refugees fleeing the violence in their home territories, there is the *economic migration* of people coming from ruined and futureless countries in search of a place where they can have the opportunity to attain a decent standard of living². Due to these factors, migration from poor to rich nations is doomed to increase³. Immigrants must inevitably make a significant cognitive effort to adjust to the culture of their host countries⁴, which entails substantial changes in their family, social and work domains⁵. The cultural and psychological transformation resulting from the interaction between culturally different groups is known as acculturation, through which the host society (the dominant group) generally imposes its characteristics over the immigrant group (the dominated group)⁶⁻⁸. While coping with the new culture immigrants may face adaptation challenges, lack of integration, and frustration for not being able to respond effectively to psychosocial stressors as they used to in their societies of origin^{9,10}. Immigrants' self-esteem is lowered significantly because of the social stigma they experience where they live, which may lead to depression or anxiety² and foster harmful alcohol consumption, that is, drinking alcohol to find relief from these negative affective states, which in turn may worsen their social exclusion and suffering^{11,12}.

In the last two decades, immigrant population has increased significantly in Western countries¹³. In Madrid, such percentage attained 13.6% of the Spanish population in 2004, 15.0% in 2005, 17.0% in 2007, 17.3% in 2010, 16.9% in 2011, 15.5% in 2012, 12.1% in 2015, 12.2% in 2016, 13.1% in 2018, and 14.1% in 2019¹⁴. These numbers show a significant increase of the immigrant population until 2010, followed by a considerable decline until 2015 owing to the international economic crisis. Since 2016, immigration grows in a moderate but progressive way. As regards alcohol consumption, it varies depending on the ethnicity of origin¹⁵ and on the age in which immigrants settled in the country of destination. This is important regarding the cultural influences that may have been inflicted upon them¹⁶, who start acquiring the alcohol consumption patterns^{17,18} of the host society. Moreover, we should take into account the amount of alcohol that immigrants used to consume in their countries of origin¹⁹ and the role model and perception concerning alcohol consumption that they already had^{20,21}. It is noteworthy that some part of the immigrant population of Arab origin who did not drink alcohol for cultural and religious reasons, started its consumption in the host countries where drinking alcohol is socially accepted, therefore breaking away from their traditions. The course

of immigration can cause social stress that lead to new induced conditions²² such as uprooting, missing one's own country, frustrated expectations, low living standards, marginalization, acculturation or language barriers^{16,17}. All of these are risk factors that not only may hinder immigrant access to socio-sanitary services or lead to family disruption²³, but also involve an enhanced vulnerability to consume alcohol and other addictive substances²⁴, most likely in order to cope with their many problems.

The authors of this paper have found bibliography on epidemiology and prevalence of alcohol consumption among immigrants, but, as surprising as it may be, have not found studies, despite its significant increase and relevance, addressing the follow-up monitoring and the evolution of AUD among the immigrant population in Spain and in Western countries (except for one addressing the adherence to group therapy, not similar to the present study)²⁵. As a result, the outcomes of this study cannot be compared to any other findings.

This study has a double aim:

- To research on the evolution of a sample population of immigrant patients (IMS) with AUD along two years of treatment and to compare it with a sample population of Spanish natives (SPS).
- To analyze the evolution of the immigrant patients according to their geographic area of origin.

METHODS

The study was conducted at the Mental Health Service of "Puente de Vallecas" in Madrid (MHS). Through consecutive sampling, a number of immigrant patients from 2000 to 2015, who met the following criteria, were selected: a) new patients, referred from Primary Care or from the General Hospital of Reference, b) patients diagnosed with Alcohol Use Disorder (AUD) according to the DSM-V, c) patients with an alcoholism assessment interview performed²⁶, d) patients included in the MHS Alcoholism Program. The final sample of immigrants (IMS) consists of 388 patients coming from 27 countries (table 1).

The Alcoholism Program (AP) of this MHS involves the assessment, treatment (detoxification and habit breaking) and follow-up monitoring of patients with AUD. In the course of the treatment, which is cognitive-behavioral focused, a number of Psychiatry, Psychology, Nursing and Social Work professionals play a part: AUD patients are treated in a comprehensive manner. Furthermore, a through effort is made with families to ensure a good understanding of this disorder and that the various family problems it may trigger are dealt with.

Table 1 Countries of origin					
Country	No.	%	Country	No.	%
Ecuador	48	12.4	Algeria	9	2.3
Peru	31	8.0	Romania	46	11.9
Bolivia	22	5.7	Bulgaria	17	4.4
Argentina	12	3.1	Poland	26	6.7
Dominican Republic	13	3.4	France	8	2.1
Cuba	15	3.9	Italia	9	2.3
Uruguay	9	2.3	Portugal	8	2.1
Venezuela	8	2.1	Ukraine	14	3.6
Chile	19	4.9	Egypt	4	1.0
Mexico	9	2.3	Lebanon	2	0.5
Paraguay	7	1.8	Palestine	1	0.3
Honduras	8	2.1	Syria	2	0.5
Colombia	13	3.4	Equatorial Guinea	2	0.5
Morocco	26	6.7	Total	388	100,0

One of the main pillars in which alcohol rehabilitation is based at this MHS, is group therapy²⁷. These sessions run for two hours every week, they are open and, likewise, have a cognitive-behavioral orientation. They aim at maintaining and reinforcing abstinence, at increasing the awareness on this condition, and at developing interpersonal abilities that allow for a progressive increase in the patient's autonomy towards alcohol. All patients with AUD are assessed in order to be included in the group. In addition to the criteria for exclusion (cognitive impairment, psychosis, severe depression and serious personality disorder), some incompatibility with family or work schedules, or the patient's refusal to participate in the group-therapy sessions may occur.

A comparative study was conducted between the immigrant sample (IMS) and a control sample of 262 patients of the same MHS, all of them Spanish natives (SPS) likewise diagnosed with AUD, from a previous study²⁸ that involved a 300-patient sample from which immigrant patients were excluded.

In both samples the following socio-demographic variables are described: age, gender, civil status, education level and employment status.

Patients of both samples were monitored at months 1, 3, 6, 9, 12, 15, 18, 21 and 24, in order to collect data on whether they were in abstinence, relapse or abandonment. These records were non-cumulative with respect to previous measurement moments. A comparative analysis on the state of evolution of both samples was performed. This same

analysis was undertaken in the IMS in order to gain deeper knowledge on the evolution of patients according to their country of origin in addition to their socio demographic characteristics. With this aim in mind and considering the heterogeneity of home countries, patients were sorted out according to the following areas of origin: Western Europe, Eastern Europe, South America/Southern Cone (SOUTHERN CONE), South America/Northern Countries (SANC), Central America, Caribbean and Mexico (CENTRAL AMERICA), Arab Countries, Non-Arab African Countries (table 2). For the purpose of this study and for a better understanding of it, all patients coming from Arab countries were assembled in one same group. Likewise, it was considered appropriate to create a group of Non-Arab Africans made up of two patients coming from Equatorial Guinea. Nonetheless, given the low representativeness of this group it was finally decided not to include it in the overall analysis.

This is a naturalistic and prospective-type study. Changes in the course of treatment (abstinence, relapse, abandonment) observed at the nine checkups along the

Table 2 Patients by geographic area		
	No.	%
Group: Central America, Caribbean and Mexico	45	11.6
Countries: CUBA, MEXICO, HONDURAS, DOMINICAN REPUBLIC		
Group: South America/Southern Cone	122	31.4
Countries: ECUADOR, PERU, BOLIVIA, VENEZUELA, COLOMBIA		
Group: South America/Northern countries	47	12.1
Countries: ARGENTINA, PARAGUAY, URUGUAY, CHILE		
Group: Arab Countries	44	11.3
Countries: MOROCCO, ALGERIA, EGYPT, LEBANON, PALESTINE, SYRIA		
Group: Eastern Europe	103	26.5
Countries: POLAND, ROMANIA, UKRAINE, BULGARIA		
Group: Western Europe	25	6.4
Countries: PORTUGAL, FRANCE, ITALY		
Group: Non-Arab African Countries	2	0.5
Country: EQUATORIAL GUINEA		
Total	388	100.0

therapeutic intervention (at months 1, 3, 6, 9, 12, 15, 18, 21 and 24) in each of the samples (SPS and IMS) and comparing both, were assessed according to the Friedman test in order to evaluate the differences arising at the different moments between the general and the specific records regarding each of the items. Comparisons post-hoc between pairs of moments (t1-t3, t3-t6, t1, t6, etc.) were made according to

the Wilcoxon test. All tests have been considered bilateral distributions. The significance level has been established at $p > 0.05$. The data was analyzed using the SPSS Statistics 24 software.

For the purpose of this study, relapse refers to the return to a continuous alcohol consumption and not to an occasional use of alcohol with no biopsychosocial consequences.

RESULTS

Results from the comparison between the SPS and the IMS

Table 1 exhibits the countries of origin of the immigrants included in this study. Ecuador (12.37%) is the most prevalent country followed by Romania (11.85%), Peru (7.98%), Morocco and Poland (each representing 6.70%), Bolivia (5.67%), Chile (4.89%), Bulgaria (4.38%) and up to a total of 27 countries.

Table 3 shows the sociodemographic characteristics of the two populations considered. The average age of the SPS is 41.04 years old and that of the IMS is 42.79 years old. As regards gender, data shows a larger amount of women in the IMS (27.3%) than in the SPS (10.7%) and a higher number of married individuals in the SPS (61.8%) than in the IMS (50%). It is noteworthy the high percentage of illiteracy found in the IMS (10.3%). In general, the education level is higher in the SPS. Regarding the employment status, the SPS is more active (64.9%) than the IMS (46.6%). Nonetheless, the percentage of unemployed individuals is similar in both samples, however this result is conditioned by the large amount of women in the SPS, amounting to 15.7%, that are housewives, compared to the 5% found in the IMS. All these socioeconomic characteristics revealed (by Chi-squared test) statistically relevant differences between the SPS and the IMS except for the age factor (by Students t-test).

Table 4 shows that abstinence after two years of treatment reaches 45.4% in the SPS vs. 33.8% in the IMS, which is statistically relevant ($p=0.009$). Likewise, it can be observed that abandonment is significantly higher after 24 months in the IMS (59%) than in the SPS (47.3%). Except for month 9, the results from controls are statistically relevant. Moreover, it can be observed that the IMS experiences a larger number of relapses than the SPS, especially during the first month (40.7% vs. 18.3%) (figure 1). Adherence to treatment in the SPS is 52.7%, higher than the 41% of the IMS.

Results by area of origin

Table 2 exhibits the groups of patients sorted out according to their area of origin. It is noteworthy the contrasting sociodemographic differences (table 5) among some of them. The average age of the Eastern Europe's group is 36.06

Table 3

Sociodemographic characteristics of the SPS and the IMS

		PES	PIN
		N = 262 (40.3 %)	N = 388 (59.7 %)
Age	Mean	41.04	42.79
	Standard deviation	10.367	11.556
	Range	50	56
	Mode	35	32 ^a
	Minimum	20	18
	Maximum	70	74
a. There are multiple modes. The lowest value is shown			
Gender	Males	234 (89.3 %)	282 (72.7 %)
	Females	28 (10.7 %)	106 (27.3 %)
Civil Status	Single	52 (19.8 %)	94 (24.2 %)
	Married	162 (61.8 %)	194 (50.0 %)
	Separated/ Divorced	38 (14.5 %)	74 (19.1 %)
	Widowed	10 (3.8 %)	26 (6.7 %)
Education	Illiterate	4 (1.5 %)	40 (10.3 %)
	No studies	57 (21.8 %)	112 (28.9 %)
	Primary studies	140 (53.4 %)	158 (40.7 %)
	Secondary studies	36 (13.7 %)	59 (15.2 %)
	University	25 (9.5 %)	19 (4.9 %)
Employment Situation	Active	170 (64.9 %)	181 (46.6 %)
	Unemployed	62 (23.7 %)	98 (25.3 %)
	Retired	17 (6.5 %)	35 (9.0 %)
	Housewife	13 (5.0 %)	61 (15.7 %)
	Student	0	13 (3.4 %)

*SPS= Spanish Sample

**IMS= Immigrant Sample

years old while that of CENTRAL AMERICA is 48.89, that of the SOUTHERN CONE is 47.11, that of the Arab Countries is 46.61, that of South America/Northern countries is 43.42 and that of Western Europe is 42.12. The average age in European countries is lower than in the other areas, especially in Eastern countries. Regarding gender, it is noteworthy that not a single Arab woman has been found. On the other hand, women represent 55% of the SOUTHERN CONE and 40% of CENTRAL AMERICA, contrasting with the 19.4% rate of Eastern Europe.

Table 4 Evolution of SPS and IMS along treatment

Month		SPS*		IMS**		χ^2 Pearson
		Frequency	Percentage	Frequency	Percentage	
1	Abstinence	175	66.8	162	41.8	.000
	Relapse	48	18.3	158	40.7	
	Abandonment	39	14.9	68	17.5	
3	Abstinence	131	50.0	161	41.5	.007
	Relapse	58	22.1	130	33.5	
	Abandonment	73	27.9	97	25.0	
6	Abstinence	122	46.6	151	38.9	.011
	Relapse	49	18.7	112	28.9	
	Abandonment	91	34.7	125	32.2	
9	Abstinence	121	46.2	150	38.7	.060
	Relapse	32	12.2	70	18.0	
	Abandonment	109	41.6	168	43.3	
12	Abstinence	120	45.8	136	35.1	.021
	Relapse	27	10.3	52	13.4	
	Abandonment	115	43.9	200	51.5	
15	Abstinence	117	44.7	128	33.0	.008
	Relapse	28	10.7	43	11.1	
	Abandonment	117	44.7	217	55.9	
18	Abstinence	119	45.4	135	34.8	.008
	Relapse	21	8.0	24	6.2	
	Abandonment	122	46.6	229	59.0	
21	Abstinence	114	43.5	132	34.0	.010
	Relapse	25	9.5	27	7.0	
	Abandonment	123	46.9	229	59.0	
24	Abstinence	119	45.4	131	33.8	.009
	Relapse	19	7.3	28	7.2	
	Abandonment	124	47.3	229	59.0	

*SPS= Spanish Sample

**IMS= Immigrant Sample

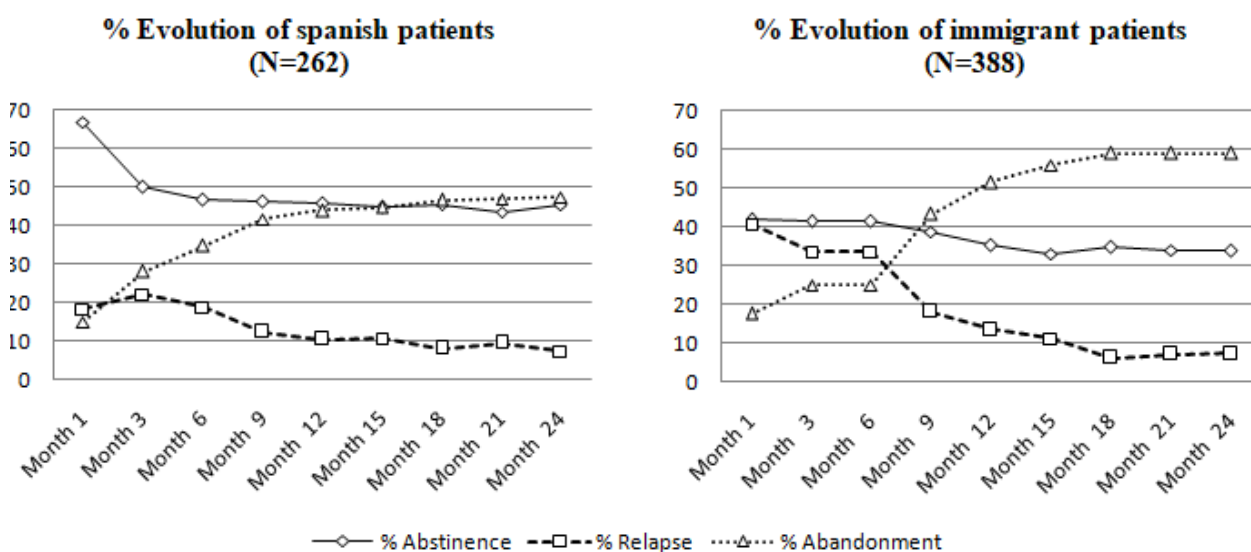
**Figure 1** Evolution along treatment in the SPS and in the IMS (in percentages)

Table 5 Sociodemographic characteristics by area of origin

No.=388		Central America, Caribbean and Mexico	South America/ Southern Cone	South America/ Northern Countries	Arab Countries	Eastern Europe	Western Europe	Non-Arab African countries
No.	45	122	47	44	103	25	2	
Percentage	11.6	31.4	12.1	11.3	26.5	6.4	0.5	
Gender								
Male	27 (60.0 %)	88 (72.1 %)	21 (44.7 %)	44 (100 %)	83 (80.6 %)	17 (68.0 %)	2 (100 %)	
Female	18 (40.0 %)	34 (27.9 %)	26 (55.3 %)	0	20 (19.4 %)	8 (32.0 %)	0	
Civil Status								
Single	9 (20.0 %)	17 (13.9 %)	11 (23.4 %)	7 (15.9 %)	40 (38.8 %)	9 (36.0 %)	1 (50 %)	
Married	18 (40.0 %)	76 (62.3 %)	15 (31.9 %)	37 (84.1 %)	34 (33.0 %)	13 (52.0 %)	1 (50 %)	
Separated/Divorced	11 (24.4 %)	27 (22.1 %)	9 (19.1 %)	0	24 (23.3 %)	3 (12.0 %)	0	
Widowed	7 (15.6 %)	2 (1.6 %)	12 (25.5 %)	0	5 (4.9 %)	0	0	
Education								
Illiterate	9 (20.0 %)	6 (4.9 %)	2 (4.3 %)	18 (40.9 %)	5 (4.9 %)	0	0	
No studies	15 (33.3 %)	66 (54.1 %)	9 (19.1 %)	17 (38.6 %)	5 (4.9 %)	0	0	
Primary studies	14 (31.1 %)	48 (39.3 %)	20 (42.6 %)	9 (20.5 %)	55 (53.4 %)	10 (40.0 %)	2 (100 %)	
Secondary studies	7 (15.6 %)	2 (1.6 %)	15 (31.9 %)	0	28 (27.2 %)	7 (28.0 %)	0	
University	0 (0 %)	0 (0 %)	1 (2.1 %)	0	10 (9.7 %)	8 (32.0 %)	0	
Employment Situation								
Active	10 (22.2 %)	61 (50.0 %)	10 (21.3 %)	19 (43.2 %)	66 (64.1 %)	14 (56.0 %)	1 (50 %)	
Unemployed	10 (22.2 %)	37 (30.3 %)	7 (14.9 %)	17 (38.6 %)	26 (25.2 %)	0	1 (50 %)	
Retired	9 (20.0 %)	7 (5.7 %)	10 (21.3 %)	3 (6.8 %)	3 (2.9 %)	3 (12.0 %)	0	
Housewife	16 (35.6 %)	17 (13.9 %)	20 (42.6 %)	0	0	8 (32.0 %)	0	
Student	0	0	0	5 (11.4 %)	8 (7.8 %)	0	0	

All areas show a higher percentage of married individuals compared to singles except for Eastern Europe where married individuals account for 33% and singles 38.8% of the sample. It is not worthy the high rate, in general terms, of separated and divorced population found, ranging from 19% to 24%, except for Western Europe with a 12% rate and the Arab countries with nobody. European countries experience the highest level of education, but what it is most striking is that the rate of illiteracy is as high as 40.9% and that 38.6% of the population in the Arab countries has no education, which has a significant impact in the high overall rate of illiteracy of the IMS.

The evolution along two years of treatment by geographic areas is exhibited in table 6. Patients in the Arab Countries' area show an abstinence rate after 24 months of 52.3%. This rate decreases to 44.7% in the SOUTHERN CONE, to 35.6% in CENTRAL AMERICA, to 32.0% in Western Europe, to 29.1%

in Eastern Europe and to 26.2% in South America/Northern Countries. The Wilcoxon test reveals a general trend towards a statistically significant change in the response of the groups in months 1 to 12 of treatment, trend that does not continue in months 12 to 24 (except for the Arab countries, where no significant changes are observed neither in months 1 to 12 nor in months 12 to 24). Abandonment of treatment, which, logically, is in practice, inversely proportional to the abstinence rates, is surprisingly high in South America/Northern Countries where it amounts to 73.8%, decreasing to 60.0% in Western Europe, to 57.3% in Eastern Europe, to 55.6% in CENTRAL AMERICA, to 47.7% in the Arab Countries and to 38.0% in the SOUTHERN CONE (table 6). As regards relapses, they are larger until month 9 but they decrease thereafter as abandonment increases. It is noticeable that compared to other geographic areas, the SOUTHERN CONE still has a 17% relapse rate, however this has a positive impact on the greater adherence to the treatment.

Table 6 24-month evolution by area of origin

Mes y Evolución		Central America, Caribbean and Mexico		South America/Southern Cone		South America/Northern Countries		Arab Countries		Eastern Europe		Western Europe		Non-Arab African countries	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	Abstinence	26	57.8	25	53.2	37	30.9	19	43.2	44	42.7	10	40.0	1	50.0
	Relapse	15	33.3	19	40.4	55	45.1	18	40.9	40	38.8	10	40.0	1	50.0
	Abandonment	4	8.9	3	6.4	30	24.6	7	15.9	19	18.4	5	20.0	0	0.0
3	Abstinence	23	51.1	28	59.6	41	33.6	19	43.2	42	40.8	7	28.0	1	50.0
	Relapse	16	35.6	13	27.7	41	33.6	15	34.1	33	32.0	11	44.0	1	50.0
	Abandonment	6	13.3	16	12.8	40	32.8	10	22.7	28	27.2	7	28.0	0	0.0
6	Abstinence	24	53.3	28	59.6	36*	29.5*	19	43.2	32*	31.1*	11	44.0	1	50.0
	Relapse	8	17.8	12	25.5	37*	30.3*	13	29.5	36*	35.0*	5	20.0	1	50.0
	Abandonment	13	28.9	7	14.9	49*	40.2*	12	27.3	35*	34.0*	9	36.0	0	0.0
9	Abstinence	18*	40.0*	23	48.9	37*	30.3*	24	54.5	39	37.9	8	32.0	1	50.0
	Relapse	11*	24.4*	16	34.0	18*	14.8*	13	6.8	14	13.6	7	28.0	1	50.0
	Abandonment	16*	35.6*	8	17.0	67*	54.9*	17	38.6	50	48.5	10	40.0	0	0.0
12	Abstinence	14*	31.1*	28	59.6	27*	22.1*	22	50.0	36	35.0	8	32.0	1	50.0
	Relapse	10*	22.2*	9	19.1	12*	9.8*	4	6.8	12	11.7	4	16.0	1	50.0
	Abandonment	21*	46.7*	10	21.3	83*	68.0*	19	43.2	55	53.4	13	52.0	0	0.0
15	Abstinence	15	33.3	20*	42.6*	30	24.6	22	50.0	30*	29.1*	10	40.0	1	50.0
	Relapse	7	15.6	14*	29.8*	5	4.1	3	6.8	14*	13.6*	0	0.0	0	0.0
	Abandonment	23	51.1	13*	27.7*	87	71.3	19	43.2	59*	57.3*	15	60.0	1	50.0
18	Abstinence	17	37.8	21	44.7	32	26.2	22	50.0	33	32.0	9	36.0	1	50
	Relapse	3	6.7	8	17.0	0	0.0	1	2.3	11	10.7	1	4.0	0	0.0
	Abandonment	25	55.6	18	38.0	90	73.8	21	47.7	59	57.3	15	60.0	1	50.0
21	Abstinence	16	35.6	21	44.7	32	26.2	23	52.3	31	29.1	8	32.0	1	50.0
	Relapse	4	8.9	8	17.0	0	0.0	0	0.0	13	13.6	2	8.0	8.0	0.0
	Abandonment	25	55.6	18	38.0	90	73.8	21	47.7	59	57.3	15	60.0	1	50.0
24	Abstinence	16	35.6	21	44.7	32	26.2	23	52.3	30	29.1	8	32.0	1	50.0
	Relapse	4	8.9	8	17.0	0	0.0	0	0.0	14	13.6	2	8.0	0	0.0
	Abandonment	25	55.6	18	38.0	90	73.8	21	47.7	59	57.3	15	60.0	1	50.0

- Values shown in **bold*** in each column (group of countries) indicate a p-value (bilateral asymptotic significance) under 0.05 at the Wilcoxon signed-rank test regarding changes occurred in this group of countries since the immediately preceding observation.

- Every group of countries, except for the Arab group, showed a p-value (bilateral asymptotic significance) under 0.05 at the Wilcoxon signed-rank test when the changes observed at month 24 (end of treatment) were compared to the first day of treatment (the Non-Arab African Countries' group was excluded from the analysis due to the shortage of individuals in the sample).

DISCUSSION

Discussion on the comparison between the SPS and the IMS

According to the census of the city of Madrid as of July 1, 2019, the foreign population amounts to 462.343 people¹. It can be observed that the percentage of population from Ecuador in this city is 5.21%, however the rate of Ecuadorian population in this study amounts to 12.37%. The same comparison regarding other countries results as follows: Romania: 9.67% vs. 11.85%, Peru: 4.54% vs. 7.98%, Morocco:

4.84% vs. 6.70%, Italy: 4.80% vs. 2.31%, France: 2.18% vs. 2.06%, Poland: 1.19% vs. 6.70%, or Bulgaria: 1.66% vs. 4.38%. Despite these numbers refer to the whole city of Madrid in 2019, where as in this study patients belong to the same district and their data was collected over a 15-year period, and despite the sample distribution according to the area of origin may have varied along that period of time, a cautious comparison can be performed. It is surprising that not a single patient with Chinese nationality can be found while Chinese population nowadays accounts for 8.33% of the entire foreign population of the city, this may occur due to their specific social characteristics. Neither there are sub-

Saharan patients, with the exception of some coming from Equatorial Guinea (a former Spanish colony): acculturation and marginality should be considered obstacles for them to access sanitary devices^{16,17}.

The average age of both populations is very similar and it is consistent with other studies conducted at this MHS^{27,28,30}. The average patient's profile of the SPS is a 41 year-old married male with primary studies and actively employed. That of the IMS is a 42 year-old married male (although one third of the sample are women), with primary studies but, in general terms, less educated than that of the SPS. The most striking sociodemographic piece of information found is the high percentage of women, amounting to 27.3%, that makes up the IMS as compared to the 10.7% rate of the SPS. This means that the ratio women/men is of almost 1:3 vs. 1:10, nonetheless it is similar to another study on group therapy²⁵.

After two months under the Alcoholism Program of this MHS, 45.4% of the SPS patients are in abstinence compared to 33.8% in the IMS (table 4 and figure 4). Other studies show abstinence rates that vary from 20 to 50%^{25,27,28,31,32,33}. It is surprising that, already in month 1, only 41.8% of patients in the IMS maintain abstinence compared to 66.8% in the SPS, as for the latter, abstinence decreases until month 6 and then keeps steady until the end of the two-year treatment. As regards the IMS, abstinence decreases smoothly along the 24 months. It is noteworthy that while in the SPS, abstinence drops by 16.8% from month 1 to 3, in the IMS it only decreases by 0.3%.

One of the biggest challenges that every addiction program faces is the high abandonment rate. The Alcoholism Program of this MHS tries to lower this rate by a follow-up monitoring of each of the patients involved. Thus, if a patient does not attend a consultation, he or she is reached by telephone to reschedule the appointment. The present study reveals that abandonment in the SPS increases in a progressive way until month 9, where it starts stabilizing and experiencing minor increases. On the other hand, as regards the IMS, it increases until month 12, showing a larger rate of abandonment (figure 1). Table 4 shows that, except for month 9, the different response between the SPS and the IMS shows statistically significant results. Other studies^{34,35} indicate Abandonment rates of 25 to 40% in month 3, and up to half of the patients in month 12. In one therapy group study²⁵ the abandonment rates after two years amounted to 65.9% for non-Spanish European patients (n=44), to 76.2% for American patients (n=22) and to 75% for African patients (n=4). By the end of the treatment period, the abandonment rate of the SPS rises to 47.3% contrasting with the 59% of the IMS.

The main goal of any Alcoholism Program is that patients suffering from AUD conquer abstinence. After the detoxification period, the habit breaking phase aims at inhibiting relapse and, thus, mend the problems that the excessive alcohol intake may have caused³⁶. According to this study, this goal is met mainly up until months 12 to 15. Relapse is conceived as a return to alcohol consumption after a relatively long period of abstinence; moreover, it must be considered as part of the condition and not a failure. And although the ideal end result of the treatment is the rehabilitation from the AUD, this must not be understood as a complete abstinence but as the positive evolution of the patient concerning his or her alcohol-related problems. This study shows (table 4 and figure 1) that the SPS experiences more relapses during the first three months, a total of 18.3% in the first month, and of 22.1% in the third month, reaching more stability along the next controls. On the other hand, it is worth highlighting the high rate of relapses occurring during the first month, 40.7%, and during the following months (33.5%, 28.9% and 18%) until month 9. From month 9, data shows a decrease in the relapse rates of both populations, especially of the IMS, which has a significant impact in the increase of abandonment. In comparison with other studies conducted at this MHS^{27,28}, results are similar to those of the SPS. Other studies^{37,38} reveal relapse rates that range from 35 to 90% after 3 to 6 months, or from 60 to 90% after one year of treatment³⁹. Generally, the majority of relapses occur during the first 6 months of treatment⁴⁰. Moreover, one of the studies examined⁴¹ states that half of the relapses occur during the first month.

Adherence to treatment, which is essential to achieve a positive evolution⁴², is higher in the SPS, amounting to 52.7%, than in the IMS with 41%.

On the other hand, no statistically significant differences regarding the evolution of men and women were found when comparing the SPS and the IMS, which confirms other studies conducted^{43,44}.

Overall, it is concluded that after two years of follow-up treatment the SPS throws better results on abstinence, abandonment, relapse and adherence than the IMS.

Discussion regarding the area of origin

Table 6 exhibits the evolution of the different geographic areas. As regards the American areas, a great contrast is observed between them after two years of treatment, both, in the evolution of abstinence and in the abandonment rate. The best results are achieved by the Arab countries, with 52.3% abstinence, even higher than that of the SPS (45.4%). It is necessary to consider whether family pressure, due to cultural and religious issues, makes a positive impact on

achieving abstinence. However, such population is not the one that experiences more adherence and, therefore, suffers less abandonment, which seems contradictory. It is noteworthy that the geographic areas with a higher number of patients like Eastern Europe, and especially SOUTH AMERICA/Northern Countries, actually show the worst evolution of all, which impacts negatively in the overall results of the IMS. Further studies focusing on patients from these countries would be needed to find the root causes explaining the lack of adherence to AUD treatment. Western Europe shows a similar behavior pattern than Eastern Europe, yet, with some slightly better results (table 6). The SOUTHERN CONE is the one area that achieves a higher percentage of adherence after two years (61.7%), noticeably higher than the second highest-ranked area, the Arab countries (52.3%), and even higher than the SPS (52.7%). One study on Group therapy²⁵ showed that the Spanish speaking South American patients are the ones that experience less adherence to treatment.

Given the cultural, social and even religious heterogeneity of immigrants, a set of action protocols that take into account these differences, should be established in order to improve the therapeutic approach towards patients with AUD. Their effectiveness will depend on whether they are suitable for the patient's geographic area of origin (area along which the culture on alcohol is similar), as well as on the accessibility to the host country's Healthcare system, which immigrants might not be familiar with, and, likewise, on the proper understanding by the therapist of the message to be transmitted.

Since this study focus on a field regarding which no similar bibliography has been found, thus, not having been possible to compare results, it is been conceived, from a clinical efficiency point of view, as a study owning mainly an exploratory nature. It has not been complemented with a more through study on the specific cultural variables existing in each of the groups of countries; further studies on this subject would be needed in order to compare results. Therefore, the authors of the present study believe it has an innovative character.

CONFLICTS OF INTERESTS

The authors declare no conflicts of interests.

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