

Jorge F. Sánchez-Peña¹
Paloma Álvarez-Cotoli¹
José J. Rodríguez-Solano¹

Psychiatric disorders associated with alcoholism: 2 year follow-up of treatment

¹Servicio de Salud Mental Puente de Vallecas
Centro Peña Gorbea
Comunidad de Madrid

Introduction. Alcoholics show high rates of comorbidity with other psychiatric disorders. It is known that women are more likely to have psychiatric comorbidity than men. Existence of comorbidity in alcoholism implies a worse prognosis in the disease evolution. Treatment becomes more complex because these patients have more physical, psychological, familial and social problems than alcoholics without comorbidity.

This two-year treatment follow-up study has aimed to assess the evolution of a group of patients who have a psychiatric disorder associated with alcoholism.

Methods. We selected 100 patients enrolled in the alcohol program, with psychiatric disorder associated with "Harmful Use of Alcohol" or "Alcohol Dependence Syndrome" (ICD-10). This population was compared with a control sample consisting of 284 alcoholic patients without associated psychiatric disorders.

Results and conclusions. The percentage of women with psychiatric disorder associated with alcoholism is 47% (almost 1/1 in relation to men), significantly higher than the 10.56% of the control sample. Psychiatric disorders most frequently associated with alcoholism are personality disorders (30%), adjustment disorders (24%), depressive disorders (22%), and anxiety disorders (18%). In schizophrenic patients, the rate of alcoholism is 11% and in bipolar disorders 9%. After two years of follow up, it was found that 28% of the patients with psychiatric disorders associated with alcoholism were in abstinence compared to 41.90% of the control sample. Therefore, there is evidence of a worse outcome of patients suffering from a dual diagnosis.

Keywords: Dual diagnosis, Female alcoholism, Development of alcoholism, Alcoholism program, Alcoholic relapse

Actas Esp Psiquiatr 2012;40(3):129-35

Correspondence:
Jorge Fernando Sánchez Peña
Servicio de Salud Mental Puente de Vallecas
Calle Peña Gorbea, 4
28053-Madrid
Tel.: 91-4778747
E-mail: jorgefs56@hotmail.es

Trastornos psiquiátricos asociados a alcoholismo: seguimiento a 2 años de tratamiento

Introducción. Los alcohólicos registran altas tasas de comorbilidad con otros trastornos psiquiátricos. Se ha constatado que el sexo femenino tiene más posibilidades de presentar una comorbilidad psiquiátrica que el masculino. La existencia de comorbilidad en el alcoholismo implica un peor pronóstico en la evolución de la enfermedad. La terapia se hace más compleja debido a que estos pacientes padecen más problemas físicos, psíquicos, familiares y sociales que los alcohólicos sin comorbilidad.

Con este trabajo se pretende estudiar la evolución a dos años de tratamiento de una población de pacientes afectados de patología psiquiátrica asociada a alcoholismo.

Metodología. Se seleccionaron 100 pacientes, incluidos en el Programa de Alcoholismo, con trastorno psiquiátrico asociado a "Consumo Perjudicial" o "Síndrome de Dependencia" de Alcohol (CIE-10). Esta población se comparó con una muestra control constituida por 284 pacientes alcohólicos sin patología psiquiátrica asociada.

Resultados y conclusiones. El porcentaje de mujeres afectadas de trastorno psiquiátrico asociado a alcoholismo es del 47% (casi un 1/1 en relación al varón), mucho mayor que el 10,56% de la muestra control. Los trastornos psiquiátricos más frecuentes asociados al alcoholismo son los trastornos de personalidad (30%), trastornos adaptativos (24%), trastornos depresivos (22%) y de ansiedad (18%). En la esquizofrenia la tasa de alcoholismo asociado es de un 11% y en los trastornos bipolares de un 9%. Después de dos años de seguimiento se obtiene que el 28% de los pacientes con patología psiquiátrica asociada a alcoholismo se encuentra en abstinencia frente al 41,90% de la muestra control. Por tanto, se evidencia una peor evolución de los enfermos afectados de patología dual.

Palabras clave: Patología dual, Alcoholismo femenino, Evolución del alcoholismo, Programa de alcoholismo, Recaída alcohólica

INTRODUCTION

Psychiatric comorbidity is the association of two or more psychiatric disorders in an individual. If these coincide simultaneously, it is called cross-sectional and if they occur in a different period, it is called longitudinal.¹ For some time now, when any psychiatric disorder coexists with a toxic substance use abuse, the term *dual disorders* is used.²⁻⁴ Alcoholics have an elevated risk of comorbidity with other psychiatric disorders (30-75%), which significantly exceeds the prevalence rate of mental diseases in the general population (15-20%).⁵⁻⁸ There are three hypothesis that would explain this comorbid relation.^{9, 10} In the first, each disorder would be independent from the other, but both would interact in such a way as to worsen the patient's clinical condition. In the second, the psychiatric disorders, such as anxiety or depression, would be produced by excessive alcohol consumption. Their symptoms would remit with abstinence of the toxic substance.¹¹⁻¹⁴ An the third is the hypothesis of self-medication, in which the patients would use alcohol as a drug, that is, to relieve the suffering from the symptoms of their psychic disease.^{15,16,17} In this way, alcohol would lessen suffering caused by delusions in schizophrenics, increase the vital exaltation in maniacs or soften the feeling of loneliness and sadness in those affected by depression.¹⁸ Females have greater likelihood of psychiatric comorbidity than males.^{19, 20} Thus, depression in women is more likely to precede alcoholism than in the men.^{21, 22}

Existence of psychiatric comorbidity in alcoholism implies poor prognosis in the disease evolution due to scarce treatment compliance^{23, 24} and, in turn, it significantly increases the possibilities of suffering a relapse regarding alcohol. Thus, the therapy becomes more complex because these patients have more physical, psychic, familial and social problems²⁵⁻²⁸ than alcoholics without comorbidity. There are generally short periods of abstinence with other longer ones of relapses in the rehabilitation process of this type of patient.

This study has aimed to study the evolution at two years of treatment of a population of patients with psychiatric disorder associated to alcoholism, and to compare it with another control sample of alcoholic patients who do not have a psychiatric disorder.

METHODS

The work was performed in the Mental Health Service (MHS) of "Puente de Vallecas," Madrid. The first 100 patients who fulfilled the following criteria since 1990 were chosen: a) new patients, referred from Primary Care or from the General Hospital of Reference, b) with previously diagnosed psychiatric disorders according to the ICD-10 classification,²⁹ c) with diagnosis of "Harmful Use of Alcohol" or "Alcohol

Dependence Syndrome" (ICD 10), d) included in the Alcoholism Program of the MHS, e) and with Alcoholism Evaluation Interview³⁰ performed. This population of 100 patients affected by dual disease (DD) was compared with a control sample (CS) of 284 alcoholic patients from a previous study of our work group,³¹ which had no associated psychiatric condition.

The following variables were analyzed: age, gender, civil status, education level, occupation status, psychiatric disorder according to ICD-10 and evolution of the clinical status in regards to alcohol. The patient was followed-up at month 1, 3, 6, 9, 12, 15, 18 and 24, recording if the patient was in abstinence, relapse or abandonment in each one of these periods. In each one of these controls, the patient's state was measured, this not having an accumulative character in regards to the previous controls.

In this study, relapse was considered as return to continuous consumption of alcohol and not that of occasional use of alcohol without biopsychosocial repercussions.

This is a prospective type-naturalistic study that used the G-ST statistical program.

RESULTS

Table 1 indicates the sociodemographic characteristics of the two populations studied. As can be observed, statistically significant differences have been found between the two samples. The percentage of women in the DD population is much greater than in the CS one (47% versus 10.56%). There are more single persons in the DD group (36% versus 20.77% in the CS). Study level is greater in the DD (68% versus 59.15% in primary studies and 24% versus 14.08% in secondary studies). Regarding occupational status, as there are more women with DD, there is a greater number of housewives (22% versus 5.28% in the CS), which, logically, affects the percentage of persons who are working (50% in DD versus 63.73% in CS).

In the sample, the most frequent alcoholism associated psychiatric disorders are personality disorders (30%), adaptive disorders (24%), depressive disorders (22%) and anxiety (18%). In schizophrenia, the rate of associated alcoholism is 11% and in bipolar disorders, it is 9%. When the personality disorders are considered as principal diagnosis, they only reach 8%, but when second diagnoses are added (22%), they reach the mentioned 30% (Figure 1). Attention deficit hyperactivity disorder (ADHD) has not been found among the associated diagnoses in the sample of patients with alcoholism.

After two years within the Alcoholism Program, it is found that 28% of the patients with DD are in abstinence

Table 1		Sociodemographics characteristics of the population studied		
		Dual Disease (DD) n = 100	Control Sample (CS) n = 284	Statistics and significance
Age	Mean	40.36	40.96	Student's T: p=0.49
	Standard deviation	10.18	10.58	
	Range	45.00	50.00	
	Mode	31.00	35.00	
Gender	Males	53 (53%)	254 (89.44%)	Chi ² p< 0.0001
	Females	47 (47%)	30 (10.56%)	
Civil status	Single	36 (36%)	59 (20.77%)	Chi ² p=0.0201
	Married/partner	49 (49%)	176 (61.97%)	
	Separated/divor	13 (13%)	38 (13.38%)	
	Widow(er)	2 (2%)	11 (3.87%)	
Education	Illiterate	2 (2%)	14 (4.93%)	Chi ² p= 0.0017
	Without studies	5 (5%)	52 (18.31%)	
	Primary	68 (68%)	168 (59.15%)	
	Secondary	24 (24%)	40 (14.08%)	
	University	1 (1%)	10 (3.52%)	
Occupational situation	Active	50 (50%)	181 (63.73%)	Chi ² p< 0.0001
	Unemployed	18 (18%)	69 (24.30%)	
	Retired	10 (10%)	19 (6.69%)	
	Housewife	22 (22%)	15 (5.28%)	

versus 41.90% of those with CS (Table 2 and Figure 2), which is statistically significant at the 24 month follow-up. Drop-out is significantly greater in CS than in DD at month 1 (14% vs. 6%; p=0.0127). However, at the end of the follow-up, month 24, drop out is greater in DD (62% vs. 50.7%; p=0.0470) (Figure 3). Therefore, in the end, treatment

adherence is less in DD. Among those who continued in follow-up, relapse was also greater in DD than in CS, and significant in month 1 (Figure 4).

An association study was made to analyze how the socio-demographic and clinical variables affect the

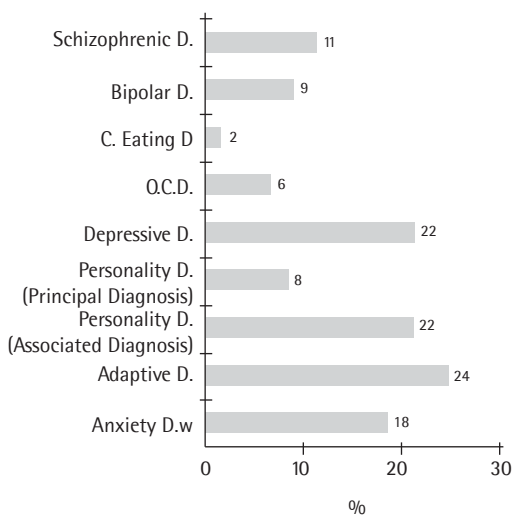


Figure 1 Principal psychiatric diagnosis associated to alcoholism

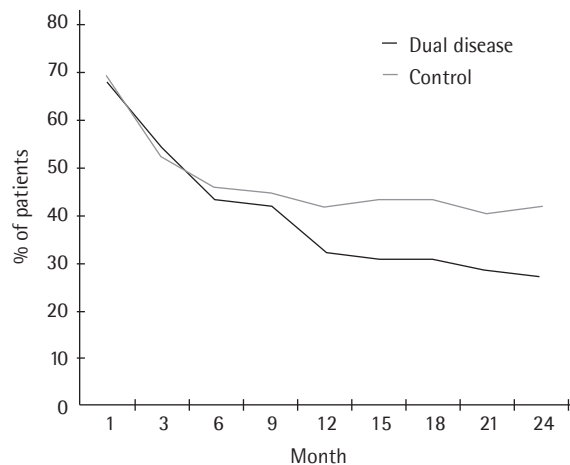


Figure 2 Evolution of abstinence in patients with psychiatric disorders associated to alcoholism vs. control

Table 2		Evolution of abstinence during the treatment		
Month		Dual Disease (DD)	Control Sample (CS)	Chi ²
1	Abstinence	66 (66%)	196 (69.01%)	p=0.0127
	Relapse	28 (28%)	48 (16.90%)	
	Abandonment	6 (6%)	40 (14.08%)	
3	Abstinence	54 (54%)	146 (51.41%)	p=0.1386
	Relapse	27 (27%)	58 (20.42%)	
	Abandonment	19 (19%)	80 (28.17%)	
6	Abstinence	43 (43%)	135 (47.54%)	p= 0.0605
	Relapse	29 (29%)	51 (17.96%)	
	Abandonment	28 (28%)	98 (34.51%)	
9	Abstinence	42 (42%)	129 (45.42%)	p=0.3659
	Relapse	18 (18%)	35 (12.32%)	
	Abandonment	40 (40%)	120 (42.25%)	
12	Abstinence	33 (33%)	118 (41.55%)	p=0.1315
	Relapse	19 (19%)	34 (11.97%)	
	Abandonment	48 (48%)	132 (46.48%)	
15	Abstinence	31 (31%)	122 (42.96%)	p=0.0780
	Relapse	15 (15%)	28 (9.86%)	
	Abandonment	54 (54%)	134 (47.18%)	
18	Abstinence	31 (31%)	122 (42.96%)	p=0.0723
	Relapse	12 (12%)	21 (7.39%)	
	Abandonment	57 (57%)	141 (49.65%)	
21	Abstinence	29 (29%)	114 (40.14%)	p=0.1128
	Relapse	9 (9%)	27 (9.51%)	
	Abandonment	62 (62%)	143 (50.35%)	
24	Abstinence	28 (28%)	119 (41.90%)	p=0.0470
	Relapse	10 (10%)	21 (7.39%)	
	Abandonment	62 (62%)	144 (50.70%)	

evolution of patients with dual disease. No association was found regarding evolution of gender, civil status, occupational status or with the diagnosis by disorders. However, an association of the level of studies with evolution at 12, 18 and 24 months was demonstrated. Patients with primary education studies have a greater likelihood of remaining abstinent at 12 months (CHI²=14.83, p=0.001), at 18 months (CHI²=6.765, p=0.034) and at 24 months (CHI²=9.178, p=0.010). An association of the syndromic diagnosis with evolution at 12 months was also demonstrated. Patients with anxious-depressive syndromes have more likelihood of remaining in abstinence at 12 months (CHI²=4.235, p=0.046).

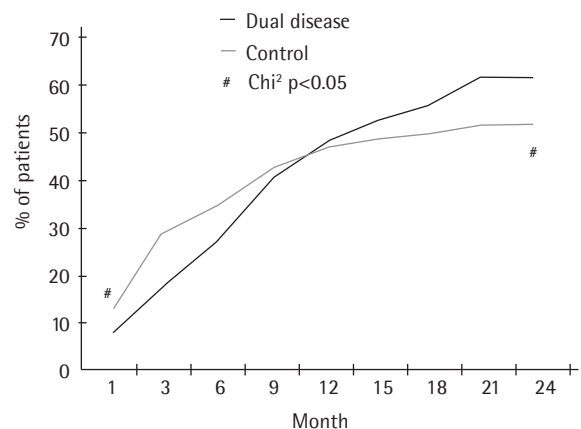


Figure 3

Evolution of drop-out in patients with psychiatric disorders associated to alcoholism vs. control

DISCUSSION

In the present study, the profile of the CS patient affected by alcoholism is that of a 40-year old male, who is married with primary studies and who has an active work

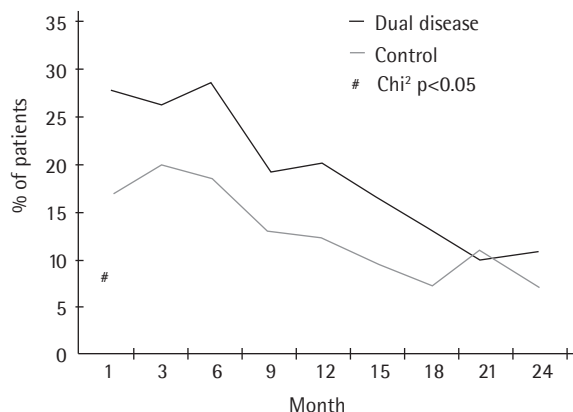


Figure 4

Evolution of relapse in patients with psychiatric disorders associated to alcoholism vs. control

status (Table 1). The profile of the DD group is that of a patient of the same age as in the CS group, with a similar proportion between men and women, in which the married subjects also predominate. However, in the CS group, there is a higher percentage of single persons, with better educational levels and those who are active occupationally.

Alcoholic women are more likely to have an additional psychiatric diagnosis than men, and when dimensions and indexes are specifically studied, the scores are higher.^{10, 32} In this work, 47% of the DD group were women (the proportion being almost 1:1 in relationship to men) and 10.56% in the CS group (9:1 male/female), this being very significant. The review of other studies places this proportion in alcoholism in general between four and nine to one in favor of males.^{31, 33-35}

A total of 28% of those forming the DD group were in abstinence at two years of the treatment, this contrasting with 41.90% of those of the CS group (Table 2). In other studies reviewed, abstinence in alcoholism in general has been found to vary from 20 to 50%.^{31, 36-38} Abandonment in DD group increases progressively every month. However, in this DD group, there is less than in the CS one up to month nine. After the ninth month, the dropouts in CS stabilize, a characteristic that does not occur in the DD group (Figure 3). This characteristic repeats in the treatment adherence (patients who do not drop out) (Table 3). Regarding relapses, more occur in the DD group (except in month 21) than in the CS one (figure 4). The results obtained coincide with studies carried out previously in Spain^{32, 39} and on an international level.^{40, 41} The data achieved in this study as a whole indicate worse evolution of patients with DD than with CS. At the end of the evolution, the DD have lower rates of abstinence, a higher rate of dropouts and lower

treatment adherence. In this study, the most frequent comorbidity, similar to another one analyzed,¹² is anxious-depressive, with 40%. Regarding depression, alcohol may induce disorders in the mood states both when the patient is drinking as well as during the rehabilitation process.^{42, 43} While in this work, comorbidity of depression is 22%, in others it may vary from 24⁴⁴ to 70%⁴⁵. Regarding anxiety, 18% contrast with the 55-65% found in other studies reviewed.^{46, 47} In this study, similar to others performed,⁴⁸ there is high prevalence of adaptive disorders and on the other hand, low prevalence of anxiety and depressive disorders. This could be explained by a greater tendency to diagnose adaptive disorders in anxious depressive symptoms. Comorbidity of alcohol with personality disorders in this study was 30%. In other works, it noticeably varied between 40-44%⁴⁹ and between 30-80%.⁶ As in another study reviewed,⁵⁰ no statistically significant differences were found in the evolution of the alcoholic patient affected by personality disorder. There may be several reasons for this so-called absence of ADHD in the samples studied. There is still a tendency to underdiagnose ADHD in the daily clinical practice in adult patients, so that it may have gone unnoticed. On the other hand, in our alcoholism program, patients with other additional addictions were not accepted (except for smoking and compulsive gambling), these patients being treated in other programs. It is well known that patients with ADHD have a tendency to develop alcoholism, but above all associated to other addictions.⁵¹

It is obvious that the type of psychiatric disorder associated to alcoholism may affect the evolution of alcoholism in different ways. Because the number of patients regarding each disorder in this study was relatively small, no comparison was made between them. The elevated prevalence of comorbidity decisively affects the evolution and prognosis of the disease, adequate psychopathological diagnoses that helps in the future management of alcoholic patients under treatment being necessary.

REFERENCES

- San L, Arranz B. Patología psiquiátrica relacionada con los trastornos por uso de alcohol. Curso de especialización en alcoholismo. Madrid: Fundación de Ayuda contra la Drogadicción, 2001.
- Cervera J, Iglesias L, Segura L, Gonzalvo L. Manejo del paciente con patología dual. En: Manual SET de alcoholismo. Madrid: Ed. Médica Panamericana, 2003; p.493-509.
- Barea J, Benito A, Real M, Mateu C, Martín E, López N, et al. Estudio sobre aspectos etiológicos de la patología dual. Adicciones. 2009;21:105-12.
- Volkow ND. Addiction and Co-occurring mental disorders. Director's perspective. 2007;21:2.
- Grant B, Dawson DA, Chou SP, Ruan WJ, Pickering RP, et al. Co-occurrence of 12-month alcohol and drug use disorders and personality disorders in the United States. Arch Gen Psychiatry. 2004;61:361-8.
- Bravo R, Echeburúa E, Aizpiri J. Características psicopatológicas

- y dimensiones de personalidad en los pacientes dependientes del alcohol: un estudio comparativo. *Adicciones*. 2007;19:373-82.
7. Wüstoff L, Waal H, Ruud T, Grawe R. A cross-sectional study of patients with and without substance use disorders in Community Mental Health Centres. *BMC Psychiatry*. 2011;11:93.
 8. Ávila JJ, González D. Diferencias de género en la enfermedad alcohólica. *Adicciones*. 2007;19:383-92.
 9. Cervera G, Valderrama JC, Martínez-Raga J, Pérez-Gálvez B. Diagnóstico dual en el abuso y dependencia de alcohol: orientación diagnóstica y terapéutica para unidades de conductas adictivas. Madrid: Ed AG Rupem, 2002; p.43-4.
 10. Shivani R, Goldsmith J, Anthenelli RM. Alcoholism and psychiatric disorders: Diagnostic challenges. *Alcohol Res Health*. 2002;26:90-8.
 11. Feurlein W. Alcoholismo: Abuso y dependencia. Barcelona: Ed. Salvat, 1982;p.132-41.
 12. Casas M, Guardia J. Patología psiquiátrica asociada al alcoholismo. *Adicciones*. 2002;14(Supl 1).
 13. Cuadrado P, Martínez J, et al. Actuar es posible. El profesional de Atención Primaria de Salud ante los problemas derivados del consumo de alcohol. Madrid: Ministerio de Justicia e Interior. Plan Nacional sobre Drogas, 1994; p.43-4.
 14. Kaplan H, Sadock B. Sinopsis de Psiquiatría, 10ª Edición. Ed. Médica Panamericana, 2008; p.390-407.
 15. Santo-Domingo J, Rubio G. Trastornos psiquiátricos y alcoholismo. En: Rubio G, Santo-Domingo J, ed. Guía Práctica de Intervención en el Alcoholismo. Madrid: Agencia Antidroga. Consejería de Sanidad de la Comunidad de Madrid, 2000; p.143-61.
 16. Casas M, Pérez J, Salazar I, Tejero A. Las conductas de automedicación en drogodependencias. En: Casas M, ed. Trastornos psíquicos en las toxicomanías. Barcelona: Ed Neurociencias, 1992.
 17. Pelicier Y, Archambault J. Du buveau à l'alcoolique: les essais de classification. *Vie Medical*. 1978;4:139-44.
 18. Alonso-Fernández A. Alcoholdependencia. Personalidad del alcohólico. Barcelona: Ed. Masson-Salvat, 1992; p.62-5.
 19. Zilberman ML, Tavares H, Blume SB, Guebaly N. Substance use disorders: sex differences and psychiatric comorbidities. *Can J Psychiatry*. 2003;48:5-13.
 20. Mann K, Hintz T, Jung M. Does psychiatric comorbidity in alcohol-dependent patients affect treatment outcome? *European Archives of Clinical Neuroscience*. 2004;254:172-81.
 21. Lorenzo A. Alcoholismo y trastorno afectivo. En: Casas M, Gutiérrez M, San Molina L, ed. Psicopatología y alcoholismo. Barcelona: Ed Neurociencias, 1994;p. 375-92.
 22. Petrakis IL, González G, Rosenheck R, Krystal JH. Comorbidity of alcoholism and psychiatric disorders. An overview. *Alcohol Res Health*. 2002;26:81-90.
 23. Harver B. Comorbid psychiatric disorders predict and influence treatment outcome in female alcoholics. *European Addictions Research*. 2003;9:39-44.
 24. Burns L, Teesson M, O'Neill K. The impact of comorbid anxiety and depression on alcohol treatment outcomes. *Addiction*. 2005;100:787-96
 25. Pérez B, de Vicente MP, García L, Romero C, Oliveras MA. Prevalencia de psicopatología en dependientes de alcohol en tratamiento ambulatorio. *Trastornos Adictivos*. 2008;10:42-8.
 26. Baigent MF. Understanding alcohol misuse and comorbid psychiatric disorders. *Curr Opin Psychiatr*. 2005;18:223-8.
 27. Bischof G, Rumpf HJ, Meyer C, et al. Influence of psychiatric comorbidity in alcohol-dependent subjects in a representative population survey on treatment utilization and natural recovery. *Addiction*. 2005;100:787-96.
 28. Compton WM, Thomas YF, Stinson FS, Grant BF. Prevalence, correlates, disability and comorbidity of DSM-IV drug abuse and dependence in the United States: results from the national epidemiologic survey on alcohol and related conditions. *Archives of General Psychiatry*. 2007;64:566-76.
 29. CIE-10. Clasificación de los Trastornos Mentales y del Comportamiento. Madrid: Ed. Médica Panamericana, 2008.
 30. Sánchez JF, Olmeda MS. Entrevista de Valoración de Alcoholismo en Salud Mental. *An Psiquiatría*. 2003;19:9-14.
 31. Sánchez JF, Rodríguez JJ. Seguimiento de pacientes alcohólicos tras 2 años de tratamiento. *An Psiquiatría*. 2008;24:47-50.
 32. Pérez-Gálvez B, Vicente-Manzanaro MP, García-Fernández L, Romero-Escobar C, Oliveras-Valenzuela MA. Prevalencia de psicopatología en dependientes al alcohol en tratamiento ambulatorio. *Trastornos Adictivos*. 2008;10:42-8.
 33. Monras M. Características diferenciales del alcohol femenino. *Adicciones*. 2010;22:339-52.
 34. Grant BF, Dawson DA, Stinson FS, Chou SP, Dufour MC, Pickering RP. The 12-month prevalence and trends in DSM-IV alcohol abuse and dependence. *Alcohol Research and Health*. 2006;29:79-91.
 35. Limusin F. Clinical and biological specificities of female alcoholism. *L'Encefale*. 2002;28:503-9.
 36. Soyka M. Profilaxis de las recaídas en el alcohol. *CNS Drugs*. 1997 Apr;7:313-27.
 37. Ávila P, Marcos M, Ávila JJ, Laso FJ. Influencia de la derivación a un Servicio de Medicina Interna en el seguimiento de pacientes alcohólicos. *Rev Clin Esp*. 2008;208:499-505.
 38. Gual A, Lligoña A, Costa S, Segura L, Colom J. Tratamiento del alcoholismo y su impacto a largo plazo. Resultados a 10 años de un estudio longitudinal prospectivo de 850 pacientes. *Med Clin*. 2004;123:364-9.
 39. Landa N, Fernández-Montalvo J, López-Goñi JJ, Lorea I. Comorbilidad psicopatológica en el alcoholismo: un estudio descriptivo. *Int J Clin Health Psychology*. 2006;6:253-69.
 40. Benjamin AB, Mossman D, Graves NS, Sanders RD. Tests of a symptom checklist to screen for comorbid psychiatric disorders in alcoholism. *Compr Psychiatry*. 2006;47:227-33.
 41. Driessen M, Veltrup C, Wetterling T, John U, Dilling H. Axis I and axis II comorbidity in alcohol dependence and the two types of alcoholism. *Alcohol Clin Exp Res*. 1998;22:77-86.
 42. Marmorstein M. Longitudinal associations between alcohol problems and symptoms: early adolescence through early adulthood. *Alcohol Clin Exp Res*. 2009;33(1):45-9.
 43. Schuckit MA, Tipp JE, Bucholz KK, Nurnbergere JI, Hesselbrock VM, et al. The life-time rates of three major mood disorders and four major anxiety disorders in alcoholics and controls. *Addiction*. 1997;92:1289-304.
 44. Schneider U, Altman A, Baumann M, Bernzen J, et al. Comorbid anxiety and affective disorder in alcohol-dependent patients seeking treatment: The first multicentre study in Germany. *Alcohol and Alcoholism*. 2001;36:219-23.
 45. Gratzler D, Levitan RD, Sheldon T, Toneatto T, Rector NA, et al. Lifetime rates of alcoholism in adults with anxiety, depression, or co-morbid depression/anxiety: a community survey of Ontario. *Journal of Affective Disorders*. 2004;79:209-15.
 46. Driessen M, Meier S, Hill A, Wetterling T, Lange W. The course of anxiety, depression and drinking behaviours after completed detoxification in alcoholics with and without comorbid anxiety and depressive disorders. *Alcohol and Alcoholism*. 2001;36:249-55.
 47. Tomasson K, Vaglum P. A nationwide representative sample of treatment-seeking alcoholics: A study of psychiatric comorbidity. *Acta Psychiatrica Scandinavica*. 1995;92:378-85.
 48. Valbuena A, Largo R, Quintero-Gutierrez J, García-Resa E, Correas

- J, et al. Comorbilidad en alcohólicos ingresados. Implicaciones clínicas y sociosanitarias. *Adicciones*. 2001;13:297-304
49. Martínez-González JM, Graña JL, Trujillo HM. Influencia de los trastornos de personalidad y patrones de consumo en la eficacia de un programa de prevención de recaídas para el tratamiento del alcoholismo. *Adicciones*. 2009;21:105-12.
50. Fernández-Montalvo J, Landa N, López-Goñi JL, Zarzuela A. Trastornos de la personalidad en alcohólicos: un estudio descriptivo. *Revista de Psicopatología y Psicología Clínica*. 2002;7:217-25.
51. Ohlmeier MD, Peters K, Te Wildt BT, Zedler M, et al. Comorbilidad de la Dependencia a Alcohol y Drogas y el Trastorno por Déficit de Atención e Hiperactividad (TDAH). *RET, Revista de Toxicomanías*. 2009;58:12-8.