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Risk factors of depressive syndrome in young adults

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Objectives: To determine risk factors associated with presence of depression in young adults (20-35 years).

Methods: Case-control design in 6 health centers. Subjects: Young adult, visited in the past two years in primary health care. Cases: Diagnosis of depression <12 months.

Controls: no diagnosis of depression or related treatment. Diagnosis confirmed by CIDI questionnaire. Random selection of controls.

Measurements: Personal interview. Dependent variable: depressive syndrome present or absent. Independent: demographic, labor, economic, social, health, drug abuse and life events.

Results: 95 cases and 93 controls. Response rate 57.7% and 45.0% respectively. Variables associated with depression: being female, being separated/divorced/widow, income <1000 €/month, difficulties at work, spending free time alone, have problems getting or maintaining relationships, sexual dissatisfaction, worse perceived health status, marijuana use, sedentary lifestyle, having suffered some form of discrimination, child abuse, a family member with serious psychological problems (last year).

Conclusions: The risk factors found are similar to those of other studies with wide age range. Differentiating factors are abuse in childhood, spending time alone, problems with relationships.

Keywords: Depression, Risk factors, Young adults, Case-control studies

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Factores de riesgo de síndrome depresivo en adultos jóvenes

Objetivos: Determinar factores de riesgo relacionados con presencia de depresión en adultos jóvenes (20-35 años).

Material y métodos: Estudio caso-control 6 centros de salud.

Sujetos: Adultos jóvenes, visitados en los últimos dos años en Atención primaria. Casos: Diagnóstico de depresión <12 meses. Controls: sin diagnóstico de depresión, o tratamiento relacionado. Diagnóstico confirmado mediante cuestionario CIDI. Selección aleatoria de controles.

Mediciones: Entrevista personal. Variable dependiente: síndrome depresivo presente o ausente. Independientes: sociodemográficas, laborales, económicas, relaciones sociales, salud, consumo de drogas, y acontecimientos vitales.

Resultados: 95 casos y 93 controles. Tasa de respuesta 57,7% y 45,0% respectivamente. Variables asociadas a depresión: Ser mujer; estar viuda/separada/divorciada; ingresos <1000€/mes; dificultades en el trabajo; pasar el tiempo libre solo; tener problemas para relacionarse o para mantener relaciones cercanas; falta de satisfacción vida sexual; peor percepción estado de salud; consumo de marihuana; sedentarismo; haber sufrido algún tipo de discriminación; maltrato infantil; algún familiar con problema psicológico grave (último año).

Conclusiones: Los factores de riesgo encontrados se asemejan a los de otros estudios con rango de edad más amplio. Factores diferenciales son maltrato en la infancia, pasar tiempo solo, problemas para relacionarse.

Palabras clave: Factores de riesgo, Depresión, Adultos jóvenes, Estudios de casos y controles

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INTRODUCTION

Depression is the principal cause of disability in the general population. It is foreseen that it will be the second cause of disability and death in industrialized countries in 2020.¹ From the perspective of public health, it is disturbing that this condition has not decreased in recent years in spite of the existence of effective treatment, education campaigns for health and clinical guidelines.^{2,3}

The prevalence of depression varies according to different studies, this being 15 to 20%. Patients having this condition are generally seen in primary health care.⁴ Only half or less receive specialized care.^{5,6}

The depressive disorder may be either be isolated or accompanied by other diagnostic categories. It may become a chronic or recurrent condition. It is associated with work absenteeism and greater demand for health care, with the important economic costs entailed.^{7,8}

Different risk factors have been described for depression, such as being a woman and low social-economic level.^{5,6,9} In addition, genetic and constitutional factors are important in the onset of this disorder.^{10,11} The studies also coincide in stating that factors such as sexual abuse, social withdrawal and family history of depression intervene in the development of this disease.^{9,12}

It has been observed that age is one of the most variable factors, although it seems that mental health problems are

more frequent among young adults.^{9,13} Depressive symptoms that initiate prior to 21 years are a particular risk, since these patients have a longer first episode, higher ratios of recurrence and comorbidity and longer hospitalizations.¹⁴ Furthermore, they can alter their normal development, affect the period of studies, negatively affecting subsequent work options and socioeconomic situation.^{7,8} In young persons between 15 and 34 years, suicide, the most frequent complication, is the second cause of death after traffic accidents for both genders.¹⁵

Effective interventions for the prevention of depression should be addressed in order to minimize the dominant risk factors, so that these need to be clearly identified. Most of the studies that evaluate risk factors do so in a population with a wide range of age or adolescents and few specifically focus on the young adult population. Thus, it is aimed to evaluate the risk factors of depression in young adults seen in Primary Care.

METHODOLOGY

Design

Case-control study conducted between April-December 2010 in 6 health care sites (HC) of Mallorca that attend a total population of 108,542 persons.

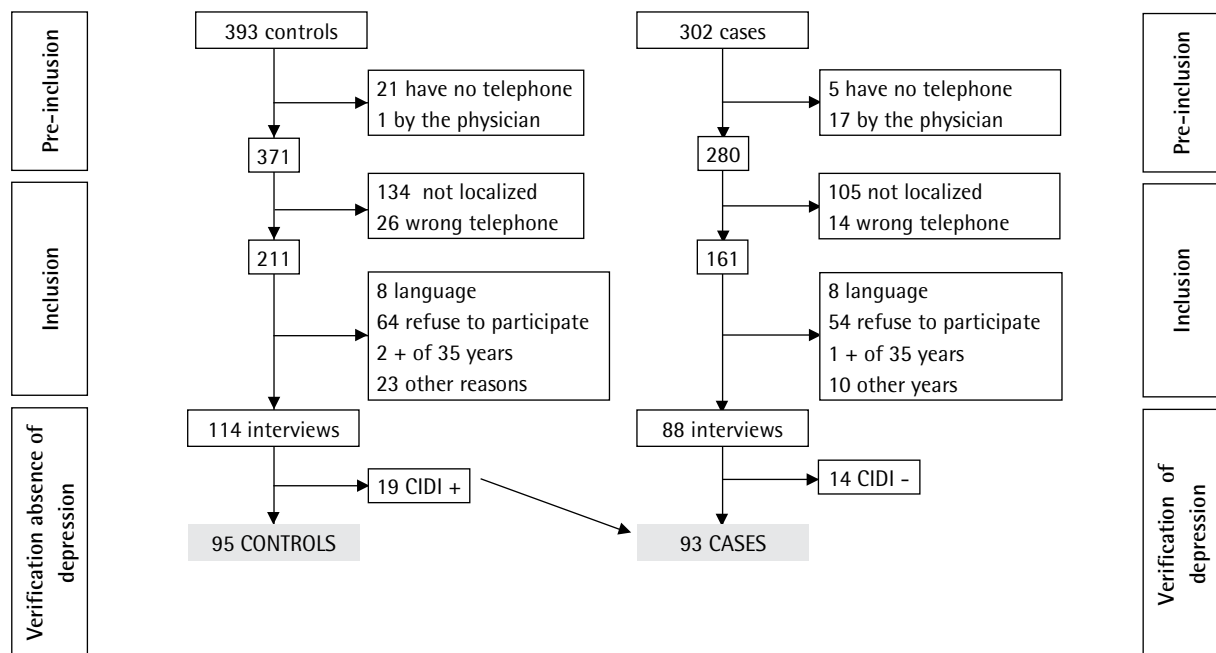


Figure 1

Participation Flow chart

Study subjects

Subjects, 20-35 years old, assigned to the HCs and who came for a visit in the last two years were included. Cases were defined as subjects with diagnosis of depression in the last year while controls were those who had not had any diagnosis of depression or received treatment with antidepressants or anxiolytics.

Common exclusion criteria were: neurodegenerative disease, oncological diseases with poor prognosis, serious physical incapacities or mental conditions that prevented fluid collaboration.

Subject inclusion was performed in two phases. In preinclusion, lists of cases/controls with open clinical history were obtained by randomized systematic sampling. Two capture strategies were developed- direct contact by the physician or contact by the interviewer after the doctor has reviewed the list to exclude erroneous diagnoses and/or contraproductive participations.

Telephone contact was made with each subject in a second phase to ask them to participate and confirm the diagnosis using the Composite International Diagnostic Interview (CIDI) questionnaire, according to the ICD-10 classification.^{16,17} Those preselected as depressive but with negative CIDI were excluded from the study and the controls with positive CIDI were considered cases (Figure 1). At least 4 contact attempts per subject were made before replacing the subject with another one. After contact and final allotment, the subject was given an appointment in the Health Care Center to inform them of the study, request their consent and administer the questionnaire.

The number of subjects needed was calculated based on the fact that 60% of the population about the Balearic Islands have primary studies or less. For an expected OR of 2.2 in the cases in regards to the controls a 95% confidence interval and a 20% beta error, there were 132 individuals per group with Yates correction. Estimating 20% losses, 158 individuals per group were needed. The calculation of the sample was done using the Epidat 3.1 program.

VARIABLES

An *ad-hoc* questionnaire was elaborated. It included some of the measurements performed in the Predict study^{13,18} and other variables collected in the Autonomic Health Survey.¹⁹

- Age, gender, civil status, birthplace, study levels, type of housing, who they were living with, stable partner.
- Vital events, using validated list.²⁰
- Place of residence, including satisfaction with the

neighborhood and safety.

- Experiences of discrimination by: gender, age, race, physical aspect, disablement, sexual orientation, and other reasons using questions from the European study²¹.
- Control, demand and rewards from paid work and unpaid work, using an adapted version of the work evaluation instrument.²²
- Adequacy, availability and sources of social support of friends and family.²³
- Family psychiatric history and suicide of first grade members.²⁴
- Sexual and emotional quality in the partnership relation, adaptation of a standardized questionnaire.²⁵
- Presence of physical, psychological diseases, substance abuse or severe incapacity that affect the persons they have a close relationship with. Difficulty to establish and maintain close relationships using questions from a social skills scale.²⁶
- Alcohol Use, measured with the Alcohol Use Disorders Identification Test (AUDIT).²⁷
- Perception of childhood abuse, smoking, drug consumption, leisure time activities.¹⁹

STATISTICAL ANALYSIS

A descriptive analysis was made of all the variables and bivariate analysis to study the relation between the presence or absence of depression with the different variables using the simple logistic regression. Crude OR and 95% confidence intervals were calculated.

To evaluate the independent effect of the different variables with the presence of depression, a multivariate logistic regression analysis was performed. The variables whose value was $p \leq 0.1$ in the bivariate analysis along with the fact of being case or control were included. The backwards likelihood model was used to include the variables. In each step, the changes in the coefficients beta and $-2LR$ values were evaluated. If the coefficients changed more than 10% in one of the steps, adjustment by confounding variable was forced. The existence of interactions was verified.

RESULTS

The final result was 188 patients, 95 controls and 93 cases, with a response rate of 45% and 57.7%, respectively. Inclusion algorithm and losses are shown in Figure 1.

Table 1 shows the sociodemographic characteristics for both groups and table 2, the economic-work ones. Presence

of depression was significantly associated with being a woman, being separated, earning less than 1000€; having problems at work, whether paid or not paid, and having little recognition in the unpaid work.

Relationships and social support variables are shown in table 3. It is observed that spending free time alone, having problems to maintain relationships with persons most of the time and difficulties to establish or maintain close relationships are associated with the presence of depression.

Table 1 Sociodemographic characteristics						
Variables		CONTROL N (%)	CASE N (%)	P	OR (95% CI)	
Gender	Men	42 (44.2)	28 (30.1)	0.047	1	
	Women	53 (55.8)	65 (69.9)		1.84 (1.00-3.35)	
Age	20-25 years	19 (20.0)	18 (19.4)	0.909	1	
	26-30 years	31 (32.6)	28 (30.1)		0.95 (0.41-217)	
	31-35 years	45 (47.4)	47 (50.5)		1.10 (0.51-2.36)	
Civil Status	Married/living with partner	54 (56.8)	47 (50.5)	0.020	1	
	Separated-divorced/widow(er)	2 (2.1)	11 (11.8)		6.31 (1.33-29.96)	
	Single	39 (41.1)	35 (37.6)		1.03 (0.56-1.88)	
Place of birth	Balearic Islands	54 (56.8)	58 (62.4)	0.271	1	
	Rest of Spain	9 (9.5)	16 (17.2)		1.65 (0.67-4.05)	
	Other countries	32 (33.7)	19 (20.4)		0.55 (0.28-1.08)	
Levels of studies	Upper	29 (30.5)	17 (18.3)	0.059	1	
	Completed Secondary	32 (33.7)	39 (41.9)		2.07 (0.97-4.44)	
	Completed primary/ incomplete secondary	29 (30.5)	30 (32.2)		0.251	2.32 (0.87-6.20)
	Without studies/ incomplete primary	5 (5.2)	7 (7.5)		0.092	1.63 (0.70-3.76)
Living regime	Own with mortgage	22 (23.4)	24 (25.8)	0.659	1	
	Own paid/home parents	31 (33.0)	40 (43.0)		1.18 (0.56-2.49)	
	Renting	41 (43.6)	29 (31.2)		0.257	0.64 (0.30-1.37)
With whom you share living quarters *(Yes)	Alone*	8 (8.4)	8 (8.6)	0.965	1	
	Partner*	63 (66.3)	52 (55.9)		0.144	0.97 (0.35-2.72)
	Children*	34 (35.8)	32 (34.4)		0.843	1.55 (0.86-2.80)
	Parents*	19 (20)	20 (21.5)		0.799	1.06 (0.58-1.93)
	Friends*	3 (3.2)	3 (3.2)		0.979	0.91 (0.45-1.84)
	Siblings*	6 (6.3)	12 (12.9)		0.132	0.97 (0.19-4.97)
	Others*	8 (8.4)	15 (16.1)		0.077	0.45 (0.16-1.26)
						0.44 (0.17-1.09)
Stable Partner	Yes	74 (77.9)	64 (68.8)	0.161	1	
	No	21 (22.1)	29 (31.2)		1.59 (0.83-3.07)	

Table 2		Work characteristics			
Variables	CONTROL N (%)	CASE N (%)	P	OR (95% CI)	
Work status					
Working	75 (78.9)	62 (66.7)		1	
Unemployed/without work	17 (17.9)	18 (19.4)	0.051	1.28 (0.60-2.69)	
Not active	3 (3.2)	13 (14.0)	0.012	5.24 (1.42-19.22)	
Monthly earnings					
>1501€	28 (29.5)	11 (11.8)		1	
1001-1500€	34 (35.8)	31 (33.3)	0.052	2.32 (0.99-5.43)	
<1000€	33 (34.7)	51 (54.8)	0.001	3.93 (1.72-8.96)	
I can acquire everything I consider necessary					
Always /Usually	64 (67.3)	53 (57.0)		1	
Sometimes	20 (21.1)	17 (18.3)	0.940	1.02 (0.48-2.15)	
Occasionally/Never	11 (11.6)	23 (24.7)	0.024	2.52 (1.12-5.65)	
Type of contract					
Permanent	45 (60)	30 (47.6)		1	
Discontinuous permanent	10 (13.3)	8 (12.7)	0.731	1.20 (0.42-3.38)	
Temporary	8 (10.7)	10 (15.9)	0.235	1.87 (0.66-5.29)	
Self-employed	6 (8)	9 (14.3)	0.160	2.25 (0.72-6.97)	
Without contract	6 (8)	6 (9.5)	0.516	1.50 (0.44-5.09)	
PAID WORK					
Time to do everything					
Often	37 (50)	36 (57.1)		1	
Sometimes	21 (28.4)	12 (19)	0.217	0.58 (0.25-1.36)	
Rarely /never/almost never	16 (21.6)	15 (23.8)	0.931	0.96 (0.41-2.23)	
Choose when to do my work					
Often	40 (54.1)	29 (46)		1	
Sometimes	21 (28.4)	16 (25.4)	0.904	1.05 (0.46-2.35)	
Rarely /never/almost never	13 (17.6)	18 (28.6)	0.140	1.91 (0.80-4.50)	
Choose what I want in my work					
Often	16 (21.9)	19 (30.2)		1	
Sometimes	26 (35.6)	9 (14.3)	0.170	0.29 (0.10-0.79)	
Rarely /never/almost never	31 (42.5)	35 (55.6)	0.904	0.95 (0.41-2.16)	
Problems					
No	70 (93.4)	44 (71)		1	
Yes	5 (6.7)	18 (29)	0.001	5.72 (1.98-16.53)	
Recognition deserved					
Yes	48 (65.8)	34 (54.8)		1	
No	25 (34.2)	28 (45.2)	0.197	1.58 (0.78-3.17)	
Change of work last year					
No	60 (84.5)	45 (75)		1	
Yes	11 (15.5)	15 (25)	0.177	1.81 (0.76-4.33)	

Tabla 2		Continuation			
Variables	CONTROL N (%)	CASE N (%)	P	OR (95% CI)	
My work gives me security					
Completely/greatly agree	53 (73.6)	36 (58.1)		1	
Neither agree nor disagree	10 (13.9)	10 (16.1)	0.436	1.47 (0.55-3.89)	
Completely/ greatly disagree	9 (12.5)	16 (25.8)	0.040	2.61 (1.04-6.56)	
I would like to change work soon					
Completely/ greatly agree	25 (34.7)	27 (43.5)		1	
Neither agree nor disagree	6 (8.3)	9 (14.5)	0.581	1.38 (0.43-4.46)	
Completely/ greatly disagree	41 (56.9)	26 (41.9)	0.155	0.58 (0.28-1.22)	
I feel fulfilled					
Completely/ greatly agree	48 (66.7)	35 (56.5)		1	
Neither agree nor disagree	12(16.7)	12 (19.4)	0.497	1.37 (0.55-3.41)	
Completely/ greatly disagree	12 (16.7)	15 (24.2)	0.227	1.71 (0.71-4.11)	

Table 3		Social relations			
Variables	CONTROL N (%)	CASE N (%)	P	OR (95% CI)	
Who do you spend your free time with					
Partner	31 (34.8)	23 (26.1)		1	
Alone	3 (3.4)	20 (22.7)	0.001	8.90 (2.30-33.90)	
Friends	21 (23.6)	20 (22.7)	0.549	1.20 (0.56-2.90)	
Family	34 (38.2)	25 (28.4)	0.981	0.98 (0.47-2.09)	
Where do you spend most of your free time					
Outside of home	34 (41.5)	29 (34.9)		1	
At home	48 (58.5)	54 (65.1)	0.389	1.31 (0.70-2.47)	
Reading					
Never/less than once / month	36 (40.0)	28 (31.5)		1	
Every month /every week	28 (31.1)	28 (31.5)	0.178	0.61 (0.30-1.25)	
Daily /almost daily	26 (28.9)	33 (37.1)	0.524	0.78 (0.37-1.64)	
Cinema					
Never/less than once / month	57 (64.0)	63 (70.8)		1	
Every month /every week	31 (34.8)	25 (28.1)	0.332	0.73 (0.38-1.38)	
Daily /almost daily	1 (1.1)	1 (1.1)	0.944	0.90 (0.05-14.80)	
Videogames					
Never/less than once / month	71 (78.9)	69 (77.5)		1	
Every month /every week	15 (16.7)	15 (16.9)	0.943	1.02 (0.46-2.26)	
Daily /almost daily	4 (4.4)	5 (5.6)	0.716	1.28 (0.33-4.99)	

Table 3 Continuation

Variables	CONTROL N (%)	CASE N (%)	P	OR (95% CI)
Internet				
Never/less than once / month	15 (16.7)	15 (16.9)		1
Every month /every week	25 (27.8)	23 (25.8)	0.858	0.92 (0.36-2.29)
Daily /almost daily	50 (55.6)	51 (57.3)	0.962	1.02 (0.45-2.30)
Television				
Never/less than once / month	9 (10.0)	7 (7.9)		1
Every month /every week	15 (16.7)	14 (15.7)	0.771	1.20 (0.35-4.09)
Daily /almost daily	66 (73.3)	68 (76.4)	0.598	1.32 (0.46-3.76)
Formation of Associations, NGO				
Never	83 (92.2)	76 (85.4)		1
Sometimes	7 (7.8)	13 (14.6)	0.153	2.02 (0.76-5.35)
Satisfactions with living arrangements				
Very/fairly satisfied	71 (81.6)	59 (69.4)		1
Neither satisfied or unsatisfied	13 (14.9)	19 (22.3)	0.100	1.91 (0.88-4.16)
Very/moderately unsatisfied	3 (3.5)	7 (8.2)	0.043	3.42 (1.03-11.29)
Satisfaction with neighborhood				
Very/fairly satisfied	80 (84.2)	72 (77.4)		1
Neither satisfied or unsatisfied	11 (11.6)	14 (15.1)	0.425	1.41 (0.60-3.31)
Very/moderately unsatisfied	4 (4.2)	7 (7.5)	0.304	1.94 (0.54-6.91)
Problems for relationships				
Never/no problem	65 (68.4)	54 (58.1)		1
Occasionally	23 (24.2)	20 (21.5)	0.898	1.04 (0.52-2.10)
Most of the time	7 (7.4)	19 (20.4)	0.013	3.26 (1.27-8.35)
Problems to establish/maintain close relationships				
Never/no problem	69 (72.6)	46 (49.5)		1
Occasionally	20 (21.1)	24 (25.8)	0.100	1.80 (0.89-3.62)
Most of the time	6 (6.3)	23 (24.7)	<0.001	5.75 (2.17-15.21)
Sentimental relation - partner				
Very satisfied	54 (73)	34 (53.1)		1
Moderately satisfied	13 (17.6)	17 (26.6)	0.880	2.07 (0.89-4.81)
Neither satisfied or unsatisfied	7 (9.5)	13 (20.3)	0.037	2.95 (1.07-8.13)
Satisfaction sexual life in general				
Very satisfied	82 (87.2)	67 (72)		1
Moderately satisfied	6 (6.4)	10 (10.8)	0.188	2.04 (0.70-5.90)
Satisfied/Very or moderately unsatisfied	6 (6.4)	16 (17.2)	0.019	3.26 (1.21-8.80)
Satisfaction sexual life partner				
Very/moderately satisfied	69 (93.2)	52 (81.3)		1
Neither satisfied or unsatisfied	2 (2.7)	7 (10.9)	0.062	4.64 (0.92-23.2)
Very/moderately unsatisfied	3 (4.1)	5 (7.8)	0.292	2.21 (0.50-9.67)

Tabla 3 Continuation

Variables		CONTROL N (%)	CASE N (%)	P	OR (95% CI)
I HAVE RELATIVES OR FRIENDS WHO...					
Do things that make me happy	True	69 (73.4)	66 (71.0)	0.710	1 1.12 (0.59-2.14)
	False/sometimes	25 (28.6)	27 (29.0)		
Do things me make me feel wanted	True	74 (78.7)	72 (77.4)	0.829	1 1.07 (0.54-2.15)
	False/sometimes	20 (21.3)	21 (22.6)		
That I can count on for everything	True	78 (83.0)	72 (77.4)	0.341	1 1.42 (0.68-2.93)
	False/sometimes	16 (17.0)	21 (22.6)		
Who will take care of me if I need it	True	80 (85.1)	74 (79.6)	0.322	1 1.46 (0.68-3.13)
	False/sometimes	14 (14.9)	19 (20.4)		
They accept me as I am	True	78 (83.0)	69 (74.2)	0.145	1 0.59 (0.29-1.20)
	False/sometimes	16 (17.0)	24 (25.8)		
They make me feel an important part of their lives	True	74 (78.7)	61 (65.6)	0.047	1 1.94 (1.01-3.73)
	False/sometimes	20 (21.3)	32 (34.4)		
They encourage me and give me support	True	74 (78.7)	68 (73.1)	0.371	1 1.36 (0.69-2.66)
	False/sometimes	20 (21.3)	25 (26.9)		

The same occurs when satisfaction with the sentimental relation with the partners is moderate or neutral or when the sexual relations are not satisfactory.

Table 4 shows the health and toxic use variables. Poor perception of health, chronic diseases and discapacity are associated with the presence of depression. Regarding toxic consumption, an association was only found with consumption of marihuana.

Table 5, which indicates personal and family vital events, shows that the disease or serious injury of the person and that of ending a close relationship, are associated with the risk of depression. Furthermore, having suffered discrimination in the last year and/or childhood abuse are observed more frequently among the depressed.

Finally, table 6 shows the results corresponding to the multivariate model. In the final model, the data place of origin, difficulties to relate and childhood abuse were forced since they caused significant variations in the beta coefficients of other variables in the model. These were

identified as possible confounders. The model presents a Nagelkerke R2 of 0.52. Being a woman, spending free time alone, perceiving one's own health as regular or poor and having some discapacity are associated with the presence of depression. However, having been born in a foreign country, being married and spending free time with the family are protective factors.

DISCUSSION

The results of our study show that there is a relation in young adults between the development of depression and several variables. These variable are, for example, being a woman, health problems and having any discapacity, having worst economic level, and little psychosocial support. These results coincide with other studies.^{5,10} Furthermore, a relationship has been determined in some subjects who have suffered some type of discrimination over their lifetime, abuse during childhood and/or have family background of psychological problems. On the other hand, difficulties to

Table 4 Health and drug consumption

Variables	CONTROL N (%)	CASES N (%)	P	OR (95% CI)
Perceived health				
Excellent/very good	43 (45.3)	20 (21.5)		1
Good	43 (45.3)	42 (45.2)	0.032	2.10 (1.06-4.14)
Regular/ bad	9 (9.5)	31 (33.3)	<0.001	7.40 (2.97-18.43)
Suffers a chronic disease				
No	78 (82.1)	65 (69.9)		1
Yes	17 (17.9)	28 (30.1)	0.052	1.97 (0.99-3.92)
Suffers some discapacity				
No	93 (97.9)	85 (91.4)		1
Yes	2 (2.1)	8 (8.6)	0.067	4.37 (0.90-21.18)
Consumes elevated alcoholic drinks				
No	81 (87.1)	75 (80.6)		1
Yes	12 (12.9)	18 (19.4)	0.234	1.62 (0.73-3.58)
Alcohol dependency				
No	88 (92.6)	78 (83.9)		1
Yes	7 (7.4)	15 (16.1)	0.068	2.41 (0.93-6.23)
Increase of alcohol consumption last year in drinkers				
No	48 (88.9)	53 (84.1)		1
Yes	6 (11.1)	10 (15.9)	0.457	1.50 (0.51-4.46)
Usual smoker, sometimes smoker				
No	8 (24.2)	13 (24.5)		1
Yes	25 (75.8)	40 (75.5)	0.976	0.98 (0.35-2.71)
Consumes marijuana				
Never	87 (91.6)	75 (80.6)		1
Sometimes (<Once /month, monthly, daily)	8 (8.4)	18 (19.4)	0.034	2.61 (1.07-6.34)
Sports				
Every week /daily	25 (27.8)	15 (16.9)		1
Every month	33 (36.7)	27 (30.3)	0.457	1.36 (0.60-3.08)
Never/once/month	32 (35.6)	47 (52.8)	0.025	2.44 (1.12-5.35)

establish/maintain close relationships, social withdrawal and place of birth have been found as differential factors in regards to other studies. These risk factors do not coincide with the results described in the references consulted, so that they provide new signs regarding the risk factors of depression in young persons.

The Nagelkerke R² is 0.52. In a similar study,¹² with 15-24 year old population, the percentage of the variance explained by the model was slightly inferior (43%) because admission variables, discapacity and social support aspect were not considered. On the contrary, this last study maintained some final factors in its model that we did not

consider in our questionnaires such as school/university failure, personality variables, or sexual identity conflicts. Bellón et al.¹³ obtained elevated predictive power from their prediction model of depression in the general population, with variables similar to those used in our study. On the contrary to our model, their final model maintains difficulties at work, and satisfaction with the persons they live with. It is possible that these variables have less effect on young adults or that our sample size was insufficient to maintain them in the final model.

The sociodemographic data obtained confirm that women have a greater likelihood of suffering depression.

Table 5		Personal and family vital events			
Variables		CONTROL	CASES	P	OR (95% CI)
		N%	N %		
PERSONAL VITAL EVENTS					
Death of close person last year					
	No	74 (77.9)	66 (71.0)		1
	Yes	21 (22.1)	27 (29.0)	0.277	1.44 (0.74-2.78)
Disease/severe injury last year					
	No	85 (89.5)	69 (74.2)		1
	Yes	10 (10.5)	24 (25.8)	0.008	2.95 (1.32-6.60)
End relation with partner last year					
	No	86 (90.5)	71 (76.3)		1
	Yes	9 (9.5)	22 (23.7)	0.011	2.96 (1.28-6.83)
Lose work/did not find work last year					
	No	75 (78.9)	66 (71.0)		1
	Yes	20 (21.1)	27 (29.0)	0.208	1.53 (0.78-2.98)
Having suffering some type of discrimination					
	No	78 (82.1)	51 (54.8)		1
	Yes	17 (17.9)	42 (45.2)	<0.0001	3.77 (1.94-7.34)
Discrimination for ...					
	Gender	2 (2.1)	7 (7.5)	0.103	3.78 (0.76-18.72)
	Color of skin or race	5 (5.3)	7 (7.5)	0.528	1.46 (0.44-4.79)
	Age	1 (1.1)	2 (2.2)	0.556	2.06 (0.18-23.18)
	Physical appearance	5 (5.3)	18 (19.4)	0.006	4.32 (1.53-12.18)
	Discapacity	1 (1.1)	1 (1.1)	0.988	1.02 (0.06-16.58)
	Sexual orientation	1 (1.1)	2 (2.2)	0.556	2.06 (0.18-23.18)
	Other reasons	6 (6.3)	23 (24.7)	<0.0001	4.87 (1.88-12.62)
Suffer abuse in childhood					
	No	86 (90.5)	62 (66.7)		1
	Yes	9 (9.5)	31 (33.3)	<0.0001	4.77 (2.12-10.74)
Relative with severe emotional problem					
	No	66 (69.5)	33 (35.9)		1
	Yes	29 (30.5)	59 (64.1)	<.0.001	4.06 (2.21-7.48)
Suicide in relative					
	No	88 (93.6)	83 (89.2)		1
	Yes	6 (6.4)	10 (10.8)	0.290	1.76 (0.61-5.07)
VITAL EVENT IN CLOSE PERSONS LAST YEAR					
Severe discapacity		N%	N%		
	No	91 (95.8)	83 (89.2)		1
	Yes	4 (4.2)	10 (10.8)	0.099	2.74 (0.82-9.07)
Existence of severe physical disease					
	No	71 (74.7)	69 (74.2)		1
	Yes	24 (25.3)	24 (25.8)	0.932	1.02 (0.53-1.98)

Tabla 5		Continuation			
Variables		CONTROL	CASES	P	OR (95% CI)
		N%	N %		
Serious problems with alcohol					
	No	83 (87.4)	73 (78.5)	0.109	1 1.89 (0.86-4.14)
	Yes	12 (12.6)	20 (21.5)		
Severe psychological or emotional problems					
	No	88 (92.6)	66 (71.0)	<0.0001	1 5.14 (2.11-12.52)
	Yes	7 (7.4)	27 (29.0)		

This information coincides with the literature reviewed and seems to be an international effect, independent of culture.²⁸ However, some studies indicate that there is an interaction between age and gender, explaining that in the elderly, men are those who have a greater likelihood of depression.^{9,29}

Significant differences are observed between the two groups regarding work characteristics. The controls have more work, higher salaries and greater work stability regarding the cases. These data are with the references consulted that support the relationship between mental health problems and unfavorable social economical level.^{5,6}

The association detected between health condition and depression is consistent with other works.^{30,31} This especially affects younger persons.³² Although the direction of the causality is not clear in accordance with the type of design used, both Bellón and King in their cohort studies coincide in demonstrating that poor perception of health predicts depression.^{9,13}

The results of several works indicate the negative effects of the use of drugs on psychosocial and cognitive functioning that may derive into psychopathological alterations. In our study, an association was only found with cannabis consumption, although this effect was not maintained after multivariate adjustment. These results converge with those of other studies,^{33,34} although we have not identified a relation with consumption of other substances.^{31,34}

Our results show the relationship between depression, establishing/maintaining close relationships and spending free time alone. These factors are difficult to evaluate because of the limitations per se of the design. The literature has shown that social support has a softening effect on depression.^{9,35} However, both the emotional as well as the cultural state may affect the perception of social support.³⁶

In our study, being a foreigner appears as a protective factor although most of the references stress the association between immigration and depression.³⁷ One explanation for these results is that the immigrant population has more

access barriers to mental health services as well as to being diagnosed of depression.^{38,39} Thus, it is possible that some cases are under-diagnosed and under-selected. Furthermore, the study excluded subjects for language difficulties.

Most of the studies show that individuals who have suffered any type of abuse (negligence experience, physical and sexual abuse) during childhood have a greater tendency to develop a mood state disorder.^{10,11,31} Specifically, they have greater risk of triggering a depressive episode at any time of their life and twice the possibilities that these episodes will be recurrent or persistent than others without a history of abuse.⁴⁰ In our study, the importance of this variable has been confirmed.

LIMITATIONS AND STRENGTHS

One of the limitations we have found in this study refers to the different rate of response between cases and controls, it being greater in the latter. These rates were similar to those found during the inclusion process regarding the % of the not-localized and rejections. However, the differences occurred in the last step, since with the confirmation of the diagnosis, the controls became cases, and cases were excluded.

Another limitation found is because the estimated sample size was not achieved. This has decreased the power of the study to detect associations between factors described in other paers, such as drug use, and presenting depression.

The retrospective design does not make it possible to establish a clear time sequence between some of the factors and depression. These are, for example, variables that refer to social relations and health at the time of the interview. Due to the above, caution must be used when stating the existence of causality relations between the study variables.

This study has not considered variables of support from the community and personality, which in some studies have demonstrated their relationship with the presence of

Table 6 Regression equation

Variables in equation	OR	(IC 95%)
Gender		
Man	1	
Woman	2.662	(1.12-6.31)
Place of birth		
Balearic Islands	1	
Rest of Spain	1.126	(0.33-3.77)
Another country	0.365	(0.13-0.98)
Civil status		
Married or living with partner	1	
Widow(er) /separated/divorced	4.293	(0.69-26.37)
Single	0.401	(0.14-1.10)
Monthly income		
>1501€	1	
1001-1500€	3.693	(1.18-11.47)
<1000€	1.913	(0.63-5.76)
Perceived health		
Excellent/very good	1	
Good	2.644	(1.00-6.95)
Regular/bad	9.210	(2.61-32.49)
Any disability		
No	1	
Yes	8.822	(1.08-71.86)
Difficulties in close relations		
Never/no problem	1	
Occasionally	3.701	(0.93-14.64)
Most of the time	0.936	(0.37-2.33)
Any close person, severe emotional or psychological problem (last year)		
No	1	
Yes	6.956	(2.02-23.90)
Relative with severe emotional problem		
No	1	
Yes	2.016	(0.88-4.59)
Having suffered abuse in childhood		
No	1	
Yes	1.619	(0.52-4.98)
Who you spend your free time with		
Partner	1	
Alone	4.849	(1.02-22.94)
With friends	0.894	(0.28-2.79)
Family	0.281	(0.09-0.83)

* R2 of Nagelkerke=0.524 and -2LogLR=166.6.

depression.¹² It would be of interest to incorporate them into future research.

CONCLUSIONS

The socioeconomic variables of social relations and health are related with depression of young adults. In the current context of crisis and precarious situation, with a potential effect of deterioration of mental health of young persons, this subject has taken on especial relevance and should be studied.

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