Original

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Prevalence and factors associated to mental disorders in primary care attenders aged 75 and older

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Background: Mental disorders in old age are a major public health problem. However, few epidemiological studies provide data on prevalence and risk factors of mental illness in older old population. The aim of this study is to assess the prevalence of common mental disorders and their associated factors in primary care patients over 75 years.

Method: Cross-sectional epidemiologic study carried out in a sample of 426 older old patients who were attended at Primary Health Care settings, proportionally distributed for provinces and health centers. The Spanish version of the *Primary Care Evaluation of Mental Disorders* (PRIME-MD) was used in order to diagnose the most common psychiatric disorders in this field.

Results: Prevalence and comorbidity rates of affective, anxiety and somatoform disorders are high. 47.4% of the sample presented one or more psychiatric disorder. The most prevalent were affective (33.8%), somatoform (24.4%) and anxiety (14.3%) disorders. 6.3% had comorbidity between affective, anxiety and somatoform disorders. Perceived health status and physical illnesses were significantly associated with these mental disorders.

Conclusions: Affective, anxiety and somatoform disorders are highly prevalent in older old population with high rates of comorbidity. Their detection and treatment should be considered a relevant issue in primary care.

Keywords: Depressive disorders, Anxiety disorders, Somatoform disorders, Primary Care, Old age

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Prevalencia de trastornos mentales y factores asociados en pacientes de atención primaria mayores de 75 años

Introducción: Los trastornos mentales en la vejez constituyen un importante problema de salud pública. No obstante, pocos estudios epidemiológicos aportan datos sobre prevalencia y factores de riesgo de enfermedades mentales en personas muy ancianas. El objetivo de este trabajo es evaluar la prevalencia de los trastornos mentales más comunes en atención primaria (AP) y sus factores asociados en pacientes mayores de 75 años.

Metodología: Estudio epidemiológico trasversal con una muestra de 426 pacientes muy ancianos atendidos en AP y distribuidos proporcionalmente por provincias y centros de salud. Se utilizó la versión española de la entrevista *Primary Care Evaluation of Mental Disorders* (PRIME-MD) para diagnosticar los trastornos psiguiátricos más frecuentes.

Resultados: Existe una alta prevalencia y comorbilidad de los trastornos del estado de ánimo, de ansiedad y somatomorfos. El 47.4% de la muestra presenta uno o más trastornos psiquiátricos. Los más prevalentes fueron los trastornos del estado de animo (33.8%), seguidos por los somatomorfos (24.4%) y los de ansiedad (14.3). El 6.3% presenta comorbilidad psiquiátrica ente estos tres diagnósticos. La percepción del paciente sobre su estado de salud y la presencia de patologías físicas se asocia significativamente con estos trastornos mentales.

Conclusiones: Los trastornos depresivos, de ansiedad y somatomorfos tienen una alta prevalencia en población muy anciana, con una elevada comorbilidad. Su detección y tratamiento es una cuestión prioritaria en AP.

Palabras clave: Trastornos afectivos, Trastornos de ansiedad, Trastornos somatomorfos, Atención Primaria, Vejez

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INTRODUCTION

The European population is characterized by its increasing level of aging, the large number of older old persons (over 75 years) being significant. The continuing increase in life expectancy has important health care and social repercussions. These are, for example, the weight of the chronic diseases, mental diseases and incapacity for personal autonomy in this population. Mental health and well-being of the geriatric population are acquiring increasingly greater relevance. Considering that the aging process of the population is very rapid, it is important to evaluate and eventually treat psychiatric disorders in older old persons.

Mental disorders in the elderly are associated to a significant reduction of quality of life, increased discapacity and mortality^{2,3} and increase of the use of health care services.⁴⁻⁶ Affective and anxiety disorders are a first magnitude problem in the elderly population. Prevalence levels in the general population of mental disorders in the elderly in Europe is estimated to be approximately 3.1-27.5% for depressive disorders, 4.5-14.2% for anxiety disorders, 0.3-13% for somatomorphic disorders, and 0.5-3.3% for alcohol dependence or abuse disorders.⁷ Prevalence levels for major depression in the elderly attended in primary care range from 4.3% and 34.2%;⁸⁻¹³ from 1.8% to 32% for anxiety disorders, ^{12,14,15} and 4% to 7.2% for somatomorphic disorders. ^{14,16}

Anxiety and somatomorphic disorders in the geriatric population have not created the same interest as affective disorders, there being much fewer studies existing on the former.⁷ Some studies on depression and anxiety disorders in the elderly^{11,13,17-19} suggest that, as occurs in other age ranges, sociodemographic characteristics such as gender and civil status are factors associated to these diseases. Equally, mental disorders often affect persons with medical diseases, mainly metabolic, gastrointestinal, respiratory, cardiovascular, musculoskeletal and neurological ones.^{3,20-24}

Risk factors such as mourning, social isolation, somatic diseases and functional deterioration increase with age. These may have a different impact among the elderly and older old. In spite of this, there are few epidemiological studies that provide data on prevalence and risk factors of mental diseases in the older old (over 75 years). It is necessary to have knowledge of these factors to define the group at high risk and to be able to improve the diagnosis and treatment of the mental diseases in this age group. 13,25,26

This work has aimed to study the prevalence of the most common mental disorders in Primary Care (affective, anxiety and somatomorphic disorders) and their associated factors in patients over 75 years of age.

METHODOLOGY

Participants and procedure

The cross-sectional epidemiological study SCREEN on mental disorders in primary care in the Spanish population²⁷ invited 2000 primary care physicians, proportionally distributed by provinces and health care centers throughout the country, 1356 of whom agreed to participate in the study (response rate 67.8%). Each medical practitioner was asked to recruit 5 to 6 patients. The sample was made up of 7936 subjects from the participating health care centers. These centers had been randomly selected to participate in the study by randomized allotment of the work days of the week and the time range (morning or afternoon). Patients over 18 years who consulted their medical practitioner for any reason were included with the exclusion of those who came for administrative reasons and scheduled visits (pregnancy, results of blood tests, etc.). Those subjects who were not capable of completing the study protocol were also excluded, individuals with any type of dementia or cognitive deterioration that would make it impossible to collect the data being excluded. Written informed consent was obtained from each one of the participants. Recruitment period was 12 weeks, between September and November 2006. The Ethics Committee of the Clínica Teknon (Barcelona, Spain) approved the study.

In the current work the data from the SCREEN study on the subjects with age equal to or greater than 75 years were used and constitute a sample of 426 subjects.

Instruments

The Spanish version²⁸ of the *Primary Care Evaluation of Mental Disorders* (PRIME-MD) interview²⁹ for the diagnosis of mental disorders was used. This instrument was elaborated from the diagnostic criteria of the DSM-IV³⁰ and is made up of a self-administered questionnaire for the patient (PQ). It consists of 25 items organized into five modules that correspond with the most frequent mental disorders in Primary Care (mood state disorders, anxiety disorders, somatomorphic disorders, disorders related with alcohol and eating disorders); and an Assessment Guideline for the Professional (AGP), that consists in a structured interview for the physician. The Spanish version of the PRIME-MD questionnaire offers adequate sensitivity and specificity values (81.4% and 66.1%, respectively).²⁸

Furthermore, a questionnaire prepared by the authors was used for the physician to collect the following sociodemographic and clinical variables: age, gender, weight, height, civil status, cohabitation in the home, level of studies, occupation, reason for consultation, concomitant conditions and therapeutic approach.

Statistical analysis

The results were analyzed using the SPSS statistical program, version 19.0. Prevalence of the different mental disorders was calculated by an estimation range of the prevalence of the diagnosis suspicion of these disorders, with a 95% confidence interval, on the sample of patients obtained. Contingency tables were used to identify the subgroups of patients who had anxiety disorders, mood state and somatomorphic disorders comorbidly, and to identify the subjects with medical comorbidity, specifying the type of disease. Association between the associated factors and mental disorders was analyzed using a logistic regression analysis with all the adjusted variables (gender, civil status, level of studies, cohabitation in the home, perception of health condition and number of medical diseases. All the statistical tests were conducted with a significance level of 0.05.

RESULTS

Of the 426 subjects evaluated, 65.3% were women. Mean age of the sample was 79.1 years, with a standard deviation of 3.59 (95% CI 78.72-79.41). According to age ranges, 63.4% were aged 75 to 79, 27.2% were between 80 and 84 years and 9.4% were older than 85 years. Prevalence levels of mental disorders evaluated indicated that 47.4% of the sample had some psychiatric diagnosis. The category of affective disorders was the most frequently diagnosed (33.8%: 95% Cl 29.31-38.29). This was followed by somatomorphic disorders (24.4%; 95% CI 20.33-28.49) and anxiety disorders (14.3%: 95% Cl 10.99-17.65) (Table 1). The greatest comorbidity between mental disorders was found in those patients with affective and somatomorphic disorders (14.8%), this being less in patients suffering anxiety disorders together with affective disorders (9.4%) or with somatomorphic disorders (8.5%). Percentage of subjects in the sample who presented comorbidly these three diagnosed categories was about 6.3% (Figure 1).

In all the disorders evaluated, there were significant differences in the perception of the health status and presence of medical diseases (Table 1). Once all the variables were adjusted, the highest likelihood of suffering an affective disorder occurred in those who perceived their health as poor (OR=5.66 95% Cl 2.92-10.96; p<0.001) and, although not significantly, in women (OR=1.36 95% Cl 0.83-2.24; p=0.221) and in those patients who lived alone (OR=1.22 95% Cl 0.7-2.14; p=0.485). Furthermore, as the comorbid physical conditions increased, the frequency of these disorders increased (OR=1.3 95% Cl 1.07-1.58; p=0.007) (Table 2).

The subjects who considered that they had poor health constituted the group of subjects with the greatest risk of suffering anxiety (OR=2.86 95% Cl 1.22-6.69; p=0.016) and

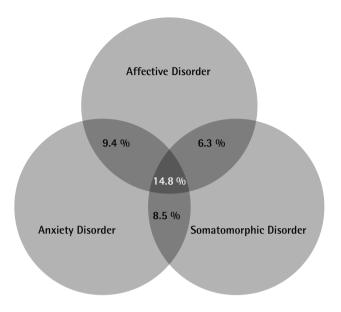


Figure 1 Psychiatric comorbidity in the sample of patients

somatomorphic disorders (OR=5.5 95% Cl 2.5-12.12; p<0.001). Furthermore, it could be observed that the number of medical diseases is a variable associated to suffering a somatization disorder (OR= 1.42 95% Cl 1.14-1.76; p<0.001). On the other hand, there were no significant differences based on gender, civil status or cohabitation in the home, even though subjects who lived alone had these diagnoses more frequently (Table 3 and 4).

DISCUSSION

The importance of this work is because no previous study has been found on the prevalence of mental disorders and their associated factors in subjects over 75 years attended in primary care that evaluates anxiety and somatomorphic disorders. The works published up to now in this population have only studied affective disorders^{9,13,19} or when they included anxiety and somatomorphic disorders, the studies were not exclusively focused on the older old. ^{14,15,27,31}

The prevalence values of somatomorphic disorders and psychiatric comorbidity in the elderly population over 75 years of age are inferior to the results obtained by our group in the sample of adults and elderly of the SCREEN study²⁷ and the prevalence rates of depression and anxiety are similar in both studies. In the Roca et al. work,²⁷ the most prevalent disorders, diagnosed with the PRIME-MD, were affective (35.8%), somatomorphic (28.8%) and anxiety (25.6%) disorders. The higher levels of comorbidity were

Characteristics	Total	Mental disorder	Without mental disorder		
	N (%)	N (%)	N (%)	χ²	Sign
Gender	110 (017)	00 (10 0)	70 (50 4)	0.00	0.000
Man Woman	148 (34.7) 278 (65.3)	69 (46.6) 133 (47.8)	79 (53.4) 145 (52.2)	0.06	0.839
	270 (00.0)	100 (17.0)	110 (02.2)		
Civil status Married	185 (43.4)	93 (50.3)	92 (49.7)	4.95	0.293
Single	27 (6.3)	8 (29.6)	19 (70.4)	4.33	0.23
Widow(er)	207 (48.6)	98 (47.3)	109 (52.7)		
Separated or Divorced	7 (1.6)	3 (42.9)	4 (57.1)		
Study level %					
No studies or incomplete primary studies	285 (66.9)	133 (46.7)	152 (53.3)	2.14	0.544
Complete primary studies	79 (18.5)	42 (53.2)	37 (46.8)	2	0.01
Complete secondary studies	38 (8.9)	15 (39.5)	23 (60.5)		
University studies	24 (5.6)	12 (50)	12(50)		
Cohabitation in the home					
Alone	129 (30.3)	62 (48.1)	67 (51.9)	0.03	0.91
Accompanied	297 (69.7)	140 (47.1)	157 (52.9)		
Perception of health status					
Good	141 (33.1)	40 (28.4)	101 (71.6)	37.43	0.00
Regular	207 (48.6)	112 (54.1)	95 (45.9)		
Poor	78 (18.3)	50 (64.1)	28 (35.9)		
Medical diseases					
Nervous system disease	38 (8.9)	26 (68.4)	12 (31.6)	7.38	0.010
Cardiovascular disease	277 (65)	137 (49.5)	140 (50.5)	1.32	0.26
Respiratory disease	80 (18.8)	42 (52.5)	38 (47.5)	1.02	0.323
Liver disease	10 (2.3)	1 (10)	9 (90)	5.75	0.02
Osteoarticular disease	290 (68.1)	154 (53.1)	136 (46.9)	11.77	0.00
Digestive disease	93 (21.8)	54 (58.1)	39 (41.9)	5.41	0.02
Neoplasms	19 (4.5)	11 (57.9)	8 (42.1)	0.88	0.360
Other diseases	103 (24.2)	56 (54.4)	47 (45.6)	2.63	0.113
Number of medical diseases					
No diseases	41 (9.6)	9 (22)	32 (78)	21.26	0.00
1 disease	78 (18.3)	36 (46.2)	42 (53.8)		
2 diseases	145 (34)	64 (44.1)	81 (55.9)		
3 diseases 4 diseases	114 (26.8) 40 (9.4)	62 (54.4) 24 (60)	52 (45.6) 16 (40)		
5 diseases	8 (1.9)	7 (87.5)	1 (12.5)		
	0 (1.0)	, (07.5)	1 (12.0)		
Diagnosis Affective disorder	(22.0)				
Anxiety disorder	(33.8) (14.3)	_	-	-	
Somatomorphic disorder	(24.4)				

found in patients with affective and anxiety disorders (19.1%), affective and somatomorphic disorders (18.6%) and anxiety and somatomorphic disorders (14.8%).

Previous epidemiologic studies^{27,31-34} indicate that 20% to 53% of the patients attended in primary care suffer a mental disorder and the patients with medical-psychiatric comorbidity constitute most of the population of these units³⁵ In our sample, these levels are also elevated, it being found that 43.3% of the subjects have a mental disorder

together with one or more medical conditions, principally nervous system, hepatic, osteoarticular and digestive diseases. In regards to psychiatric comorbidity, the data are in line with those provided in other works with adult samples, 31,36 thus confirming the strong association existing between somatization and anxiety disorders. The comorbid conditions, which interfere with the identification and subsequent treatment received by the patients, should consider specific diagnoses when designing instruments, since most of them do not contemplate these situations.³⁶

	Total N (%)	Affective disorder n (%)		OR adjusted to all the variables (IC 95%)	р
		Yes	No	_	
Gender					
Man	148 (34.7)	44 (30.6)	104 (36.9)	1	-
Woman	278 (65.3)	100 (69.4)	178 (63.1)	1.36 (0.83-2.24)	0.221
Civil status					
Married	185 (43.4)	58 (40.3)	127 (45)	1	
Single	27 (6.3)	5 (3.5)	22 (7.8)	0.42 (0.13-1.33)	0.139
Widow(er)	207 (48.6)	78 (54.2)	129 (45.7)	1.01 (0.58-1.74)	0.976
Separated or Divorced	7 (1.6)	3 (2.1)	4 (1.4)	1.62 (0.32-8.06)	0.558
Study level %					
No studies or incomplete primary studies	285 (66.9)	92 (63.9)	193 (68.4)	1	
Complete primary studies	79 (18.5)	34 (23.6)	45 (16)	1.89(1.08-3.32)	0.026
Complete secondary studies	38 (8.9)	11 (7.6)	27 (9.6)	1.11 (0.5-2.49)	3.0
University studies	24 (5.6)	7 (4.9)	17 (6)	1.01 (0.35-2.9)	0.993
Cohabitation in the home					
Alone	129 (30.3)	47 (32.6)	82 (29.1)	1.22 (0.7-2.14)	0.48
Accompanied	297 (69.7)	97 (67.4)	200 (70.9)	1	
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Perception of health status Good	141 (33.1)	23 (16)	118 (41.8)	1	
Regular	207 (48.6)	77 (53.5)	130 (46.1)	2.63 (1.52-4.55)	0.001
Poor	78 (18.3)	44 (30.6)	34 (12.1)	5.66 (2.92-10.96)	< 0.00
	70 (10.0)	11 (00.0)	01 (12.1)	0.00 (2.02 10.00)	10.00
Number of medical diseases	44 (0.0)	4 (0.0)	07 (40.4)	10 (107 150)	0.00
No diseases 1 disease	41 (9.6) 78 (18.3)	4 (2.8) 26 (18.1)	37 (13.1)	1.3 (1.07-1.58)	0.00
2 diseases	78 (18.3) 145 (34)	44 (30.6)	52 (18.4) 101 (35.8)		
3 diseases	145 (34)	48 (33.3)	66 (23.4)		
4 diseases	40 (9.4)	48 (33.3) 17 (11.8)	23 (8.2)		
5 diseases	8 (1.9)	5 (3.5)	3 (1.1)		

There is a real difficulty when directly comparing our results with other similar works because of the many diverse ways used to define and classify the different mental disorders and the heterogeneity of ages of the samples. The work published in 2005 by Licht-Strunk et al.9, in a sample of Primary Care patients evaluated with the PRIME-MD, provided data that was slightly inferior to ours on the prevalence of depression in Primary Care. A total of 27.6% of the elderly subjects over 75 years had some depressive disorder versus 33.8% obtained in our sample. Osborn et al.¹⁹ and Weyerer et al.¹³ conducted two studies similar to our work. They analyzed the prevalence and risk factors of depression in some samples of subjects having our same age group (over 75 years) in Primary Care, based on the 15-item Geriatric Depression Scale (GDS).37 The first one, conducted in the United Kingdom, used a sample of 14,214 subjects. The second one was performed on 3,242 participating subjects from Germany. In both studies, the prevalence levels were much lower than those obtained in our work. One possible explanation to this discrepancy is found in the differences existing between the health care systems of these countries and the Spanish one. In

the English sample, 7.7% showed a depressive disorder. This was slightly inferior to the German one in which the depressive disorder was found in 9.7% and the prevalence of this disease increased according to the age range, reaching 13.7% for those subjects over 85 years. As many community studies in geriatric populations have indicated 10,17,18,38 and similar to that which occurs in other ages, 27,31,39 in these works, the rates of depression are significantly higher among the women. However, as also occurs in our study, after adjusting all the variables, there was no significant correlation between gender and depression. Although it is very difficult to explain why the differences of gender in the prevalence of depression become equal with age, we believe that it may be because some factors that determine these differences, such as the differences of roles in men and women or hormone factors, do not have the same impact in the elderly as in the adult age. This result supports the hypothesis of Jorm, 40 who postulated that the differences of gender in depressive disorders are less marked as the age increases in the elderly population. Our data follow the line of those obtained by Osborn et al., 19 which indicate that the number of physical conditions is significant

Table 3 Adjusted associations with anxiety disorder					
	Total N (%)		e disorder (%)	OR adjusted to all the variables (IC 95%)	р
		Yes	No		
Gender	140 (24.7)	10 (21.1)	120 (25.2)		
Man	148 (34.7)	19 (31.1)	129 (35.3)	1 07 (0.57, 0.00)	- 0.000
Woman	278 (65.3)	42 (68.9)	236 (64.7)	1.07 (0.57-2.02)	0.838
Civil status	105 (42.4)	27 (442)	150 (42.2)	1	
Married	185 (43.4)	27 (44.3)	158 (43.3)	1	0.705
Single	27 (6.3)	3 (4.9)	24 (6.6)	0.79 (0.2-3.15)	0.735
Widow(er)	207 (48.6)	31 (50.8)	176 (48.2)	0.74 (0.35-1.53)	0.415
Separated or Divorced	7 (1.6)	-	7 (1.9)	-	-
Study level %	225 (22.2)	45 (70.0)	0.40 (05.0)	_	
No studies or incomplete primary	285 (66.9)	45 (73.8)	240 (65.8)	1	-
studies	79 (18.5)	11 (18)	68 (18.6)	0.88(0.42-1.86)	0.74
Complete primary studies	38 (8.9)	2 (3.3)	36 (9.9)	0.32 (0.07-1.4)	0.13
Complete secondary studies University studies	24 (5.6)	3 (4.9)	21 (5.8)	0.7 (0.18-2.7)	0.603
Cohabitation in the home	129 (30.3)	20 (32.8)	109 (29.9)	1.36 (0.65-2.87)	0.416
Alone	297 (69.7)	41 (67.2)	256 (70.1)	1.30 (0.00-2.07)	0.410
Accompanied	297 (69.7)	41 (07.2)	256 (70.1)	1	-
Perception of health status	141 (33.1)	11 (18)	130 (35.6)	1	
Good	207 (48.6)	32 (52.5)	175 (47.99	1.84 (0.88-3.88)	0.108
Regular	78 (18.3)	18 (29.5)	60 (16.4)	2.86 (1.22-6.69)	0.108
Poor	70 (10.3)	10 (29.5)	60 (16.4)	2.00 (1.22-0.09)	0.016
Number of medical diseases	41 (0.0)	2 (4 0)	20 (10.4)	1 22 (1 04 1 71)	0.058
No diseases	41 (9.6)	3 (4.9)	38 (10.4)	1.33 (1.04-1.71)	บ.บอช
1 disease	78 (18.3)	7 (11.5)	71 (19.5)		
2 diseases	145 (34) 114 (26.8)	20 (32.8)	125 (34.2) 94 (25.8)		
3 diseases	` '	20 (32.8)	` '		
4 diseases	40 (9.4) 8 (1.9)	8 (13.1) 3 (4.9)	32 (8.8) 5 (1.4)		
5 diseases	0 (1.9)	3 (4.9)	5 (1.4)		

when suffering a depressive disorder, but the rest of the variables studied are not significant.

Somatization and anxiety disorders, as occurs in other ages, are less frequent than the affective disorders.²⁷ However, the prevalence figures for these disorders are elevated. In our sample of subjects, it is observed that variables such as gender, civil status or number of persons who live in the home are not significantly associated with these disorders. On the contrary, the variable of perception of state of health and presence of medical diseases constitute factors associated to these conditions. In these two groups of disorders and in affective disorders, as age increases, gender stops being a mediator factor between these diagnoses. Thus, we see that the prevalence is almost twice in women than in men in adult persons. 15,27,41 There are some studies with samples of elderly patients in primary care who are younger than in our sample of the elderly^{14,15} and some with older old subjects not from this setting^{17,42} that show data that are inferior to ours on the prevalence and comorbidity of these disorders (between 0.8% and 10.6% of the subjects have anxiety disorders, 5.4% have somatization disorders and 2.8% have comorbidity between affective and anxiety disorders). We cannot compare our results with similar works because we have not found any study that provides data on these disorders in elderly population over 75 years in primary care. Anxiety and somatization disorders in the elderly have not aroused much interest among the scientific community. However, the results provided in this work and the fact that the population is in the process of aging makes clear the need to continue investigating in this age group and to cope with the possible specific challenges in this population.

Limitations and strengths

The greatest strength of this study resides in the fact that it is the only work published up to now that evaluates

Table 4 Adjusted associations with somatization disorder						
		Total Affective disorder N (%) n (%)		OR adjusted to all the variables (IC 95%)	р	
		_	Yes	No	_	
Gender		148 (34.7)	36 (34.6)	112 (34.8)	1	_
Man Woman		278 (65.3)	68 (65.4)	210 (65.32)	0.85 (0.5-1.45)	0.548
Civil status			, ,	,		
Married		185 (43.4)	50 (48.1)	135 (41.9)	1	-
Single		27 (6.3)	6 (5.8)	21 (6.5)	1.03 (0.34-3.13)	0.960
Widow(er)		207 (48.6)	48 (46.2)	159 (49.4)	0.57 (0.31-1.04)	0.069
Separated or Div	vorced	7 (1.6)	-	7 (2.2)	-	-
Study level %		285 (66.9)	74 (71.2)	211 (65.5)	1	
	complete primary	79 (18.5)	19 (18.3)	60 (18.6)	0.86 (0.45-1.62)	0.634
studies		38 (8.9)	7 (6.7)	31 (9.6)	0.68 (0.27-1.74)	0.425
Complete primal Complete second University studie	dary studies	24 (5.6)	4 (3.8)	20 (6.2)	0.45(0.13-1.52)	0.198
Cohabitation in the	e home	129 (30.3)	31 (29.8)	98 (30.4)	1.38 (0.73-2.59)	0.32
Alone Accompanied		297 (69.7)	73 (70.2)	224 (69.6)	1.30 (0.73-2.33)	-
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Perception of healt	th status	141 (33.1)	12 (11.5)	129 (40.1)	1	_
Good Regular		207 (48.6)	64 (61.5)	143 (44.4)	4.51 (2.28-8.95)	< 0.001
Poor		78 (18.3)	28 (26.9)	50 (15.5)	5.5 (2.5-12.12)	<0.001
Number of medica	l diseases	(2.2)	- ()	2. (12.3)	(
No diseases		41 (9.6)	7 (6.7)	34 (10.6)	1.42 (1.14-1.76)	< 0.001
1 disease		78 (18.3)	14 (13.5)	64 (19.9)		
2 diseases		145 (34)	25 (24)	120 (37.3)		
3 diseases		114 (26.8) 40 (9.4)	34 (32.7) 20 (19.2)	80 (24.8) 20 (19.2)		
4 diseases		8 (1.9)	4 (3.8)	4 (1.2)		
5 diseases		0 (1.5)	+ (3.0)	+ (1.2)		

anxious and somatomorphic disorders in addition to affective disorders in a sample of persons over 75 years seen in primary care. A second strength of the study is its sample size and that it is distribution proportionally throughout the country. It is important to consider the fact that the Spanish public health system covers almost the entire population, so that the most disadvantaged groups are included. For all these reasons, we can state that this is a truly representative sample of the clinical reality of primary care in Spain.

Among the limitations, it stands out that this is a cross-sectional study so that associations of risk or protection cannot be established. Furthermore, it should be considered that the study was performed by a large number of primary care physicians, which may have affected the inter-rated reliability, and that an instrument was used which had been designed to be administered in the adult population, but was not specific for the geriatric population. However, the fact that an instrument was used with well-established

psychometric properties and that was widely used in studies reduces the impact of these last two limitations

CONFLICT OF INTERESTS

There are no conflicts of interests.

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REFERENCES

- Instituto de Mayores y Servcios Sociales (IMSERSO). Las personas mayores en España. Informe 2008. Madrid: Ministerio de Sanidad, Servicios Sociales e Igualdad, 2009.
- Alexopoulos GS, Vrontou C, Kakuma T, Meyers BS, Young RC, Klausner E, et al. Disability in geriatric depression. Am J Psychiatry. 1996;153(7):877–85.

- Braam AW, Prince MJ, Beekman AT, Delespaul P, Dewey ME, Geerlings SW, et al. Physical health and depressive symptoms in older Europeans. Results from EURODEP. Br J Psychiatry. 2005;187:35–42.
- Beekman AT, Deeg DJ, Braam AW, Smit JH, Van Tilburg W. Consequences of major and minor depression in later life: a study of disability, well-being and service utilization. Psychol Med. 1997;27(6):1397-409.
- Glaesmer H, Gunzelmann T, Martin A, Brahler E, Rief W. The impact of mental disorders on health care utilization and illness behaviour in the elderly. Psychiatr Prax. 2008;35(4):187-93.
- Luppa M, Heinrich S, Matschinger H, Sandholzer H, Angermeyer MC, Konig HH, et al. Direct costs associated with depression in old age in Germany. J Affect Disord. 2008;105(1-3):195-204.
- Riedel-Heller SG, Busse A, Angermeyer MC. The state of mental health in old-age across the 'old' European Union-- a systematic review. Acta Psychiatr Scand. 2006;113(5):388-401.
- Kamble SV, Dhumale GB, Goyal RC, Phalke DB, Ghodke YD. Depression among elderly persons in a primary health centre area in Ahmednagar, Maharastra. Indian J Public Health. 2009;53(4):253-5.
- 9. Licht-Strunk E, van der Kooij KG, van Schaik DJ, van Marwijk HW, van Hout HP, de Haan M, et al. Prevalence of depression in older patients consulting their general practitioner in The Netherlands. Int J Geriatr Psychiatry. 2005;20(11):1013-9.
- Lyness JM, Caine ED, King DA, Conwell Y, Duberstein PR, Cox C. Depressive disorders and symptoms in older primary care patients: one-year outcomes. Am J Geriatr Psychiatry. 2002;10(3):275-82.
- Navarro B, Andres F, Parraga I, Morena S, Latorre JM, Lopez-Torres J. Approach to major depression in old people. Int Psychogeriatr. 2010;22(5):733-8.
- Watts SC, Bhutani GE, Stout IH, Ducker GM, Cleator PJ, McGarry J, et al. Mental health in older adult recipients of primary care services: is depression the key issue? Identification, treatment and the general practitioner. Int J Geriatr Psychiatry. 2002;17(5):427-37.
- Weyerer S, Eifflaender-Gorfer S, Kohler L, Jessen F, Maier W, Fuchs A, et al. Prevalence and risk factors for depression in nondemented primary care attenders aged 75 years and older. J Affect Disord. 2008;111(2-3):153-63.
- de Waal MW, Arnold IA, Eekhof JA, van Hemert AM. Somatoform disorders in general practice: prevalence, functional impairment and comorbidity with anxiety and depressive disorders. Br J Psychiatry. 2004;184:470-6.
- Olfson M, Shea S, Feder A, Fuentes M, Nomura Y, Gameroff M, et al. Prevalence of anxiety, depression, and substance use disorders in an urban general medicine practice. Arch Fam Med. 2000;9(9):876-83.
- de Waal MW, Arnold IA, Eekhof JA, Assendelft WJ, van Hemert AM. Follow-up study on health care use of patients with somatoform, anxiety and depressive disorders in primary care. BMC Fam Pract. 2008;9:5.
- Byers AL, Yaffe K, Covinsky KE, Friedman MB, Bruce ML. High occurrence of mood and anxiety disorders among older adults: The National Comorbidity Survey Replication. Arch Gen Psychiatry. 2010;67(5):489-96.
- Cole MG, Dendukuri N. Risk factors for depression among elderly community subjects: a systematic review and meta-analysis. Am J Psychiatry. 2003;160(6):1147-56.
- 19. Osborn DP, Fletcher AE, Smeeth L, Stirling S, Bulpitt CJ, Breeze E, et al. Factors associated with depression in a representative sample of 14.217 people aged 75 and over in the United Kingdom: results from the MRC trial of assessment and

- management of older people in the community. Int J Geriatr Psychiatry. 2003;18(7):623-30.
- 20. Baca E, Roca M, Garcia-Calvo C, Prieto R. Venlafaxine extended-release in patients older than 80 years with depressive syndrome. Int J Geriatr Psychiatry. 2006;21(4):337-43.
- 21. Gili M, Sese A, Bauza N, Serrano MJ, Salvador-Carulla L, Molina R, et al. Mental disorders, chronic conditions and psychological factors: a path analysis model for healthcare consumption in general practice. Int Rev Psychiatry. 2011;23(1):20-7.
- 22. Harter M, Baumeister H, Reuter K, Jacobi F, Hofler M, Bengel J, et al. Increased 12-month prevalence rates of mental disorders in patients with chronic somatic diseases. Psychother Psychosom. 2007;76(6):354-60.
- 23. Katon W, Lin EH, Kroenke K. The association of depression and anxiety with medical symptom burden in patients with chronic medical illness. Gen Hosp Psychiatry. 2007;29(2):147–55.
- Scott KM, Bruffaerts R, Tsang A, Ormel J, Alonso J, Angermeyer MC, et al. Depression-anxiety relationships with chronic physical conditions: results from the World Mental Health Surveys. J Affect Disord. 2007;103(1-3):113-20.
- Bergdahl E, Gustavsson JM, Kallin K, von Heideken Wagert P, Lundman B, Bucht G, et al. Depression among the oldest old: the Umea 85+ study. Int Psychogeriatr. 2005;17(4):557-75.
- Martin-Carrasco M, Aguera-Ortiz L, Caballero-Martinez L, Cervilla-Ballesteros J, Menchon-Magrina JM, Montejo-Gonzalez AL, et al. Consensus of the SEPG on depression in the elderly. Actas Esp Psiquiatr. 2011;39(1):20–31.
- Roca M, Gili M, Garcia-Garcia M, Salva J, Vives M, Garcia Campayo J, et al. Prevalence and comorbidity of common mental disorders in primary care. J Affect Disord. 2009;119(1-3):52-8.
- 28. Baca E, Saiz J, Aguera L, Caballero L, Fernandez-Liria A, Ramos J, et al. Validation of the Spanish version of PRIME-MD: a procedure for diagnosing mental disorders in primary care. Actas Esp Psiquiatr. 1999;27(6):375-83.
- Spitzer RL, Williams JB, Kroenke K, Linzer M, deGruy FV,3rd, Hahn SR, et al. Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study. JAMA. 1994;272(22):1749-56.
- American Psychiatric Association. Diagnostic and Statistic Manual of Mental Disorders (DSM-IV). Washington: American Psychiatric Press, 1994.
- 31. Ansseau M, Dierick M, Buntinkx F, Cnockaert P, De Smedt J, Van Den Haute M, et al. High prevalence of mental disorders in primary care. J Affect Disord. 2004;78(1):49–55.
- 32. Lynge I, Munk-Jorgensen P, Pedersen AL, Mulvad G, Bjerregaard P. Common mental disorders among patients in primary health care in Greenland. Int J Circumpolar Health. 2004;63(Suppl 2):377-83.
- Serrano-Blanco A, Palao DJ, Luciano JV, Pinto-Meza A, Lujan L, Fernandez A, et al. Prevalence of mental disorders in primary care: results from the diagnosis and treatment of mental disorders in primary care study (DASMAP). Soc Psychiatry Psychiatr Epidemiol. 2010;45(2):201-10.
- 34. Toft T, Fink P, Oernboel E, Christensen K, Frostholm L, Olesen F. Mental disorders in primary care: prevalence and co-morbidity among disorders. Results from the functional illness in primary care (FIP) study. Psychol Med. 2005;35(8):1175-84.
- 35. Gili M, Comas A, Garcia-Garcia M, Monzon S, Antoni SB, Roca M. Comorbidity between common mental disorders and chronic somatic diseases in primary care patients. Gen Hosp Psychiatry. 2010;32(3):240-5.
- Mergl R, Seidscheck I, Allgaier AK, Moller HJ, Hegerl U, Henkel V. Depressive, anxiety, and somatoform disorders in primary care: prevalence and recognition. Depress Anxiety. 2007;24(3):185–95.

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- 37. Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS): Recent evidence and development of a shorter version. Clinical Gerontologist: The Journal of Aging and Mental Health. 1986;5(1-2):165-73.
- 38. Xavier FM, Ferraza MP, Argimon I, Trentini CM, Poyares D, Bertollucci PH, et al. The DSM-IV 'minor depression' disorder in the oldest-old: prevalence rate, sleep patterns, memory function and quality of life in elderly people of Italian descent in Southern Brazil. Int J Geriatr Psychiatry. 2002;17(2):107-16.
- 39. Alonso J, Angermeyer MC, Bernert S, Bruffaerts R, Brugha TS, Bryson H, et al. Prevalence of mental disorders in Europe: results from the European Study of the Epidemiology of
- Mental Disorders (ESEMeD) project. Acta Psychiatr Scand Suppl. 2004;(420):21-7.
- 40. Jorm AF. Sex and age differences in depression: a quantitative synthesis of published research. Aust N Z J Psychiatry. 1987;21(1):46-53.
- 41. Broers T, Hodgetts G, Batic-Mujanovic O, Petrovic V, Hasanagic M, Godwin M. Prevalence of mental and social disorders in adults attending primary care centers in Bosnia and Herzegovina. Croat Med J. 2006;47(3):478–84.
- 42. Schaub RT, Linden M. Anxiety and anxiety disorders in the old and very old-Results from the Berlin Aging Study (BASE). Compr Psychiatry. 2000;41(Suppl 1):48-54.