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TRAIT ANXIETY AND SELF-RATED HEALTH AS PREDICTOR VARIABLES OF MEDICAL ATTENTION IN SPANISH POPULATION

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**Abstract:** Understanding the factors that affect medical service use is a relevant task with a view to providing improved health services. The goal of the present study was to analyze the effect of self-rated health and trait anxiety in the prediction of the general prevalence of visits to a doctor and of frequent attenders (FAs) in a sample of Spanish population. The participants, 1001 adults randomly selected from Spanish population, reported the number of visits to primary care and specialized attention services during the past year. The general prevalence of visits was 70.7%, with a mean of 4.11 visits per year. Good self-rated health was associated with a lower prevalence of visits, whereas participants with high trait anxiety were 2.26 times as likely to use health services. With regard to FAs, worse self-rated health and high trait anxiety were significant predictors of visits to a doctor, even after controlling for the effect of diverse sociodemographic variables. Our results add evidence of the significance of psychological variables when accounting for the use of medical services and reveal the importance of attending to the psychological needs of users who frequently visit a doctor.

**Key words:** trait anxiety, self-rated health, medical attention, frequent attenders.

**Resumen:** Comprender los factores que afectan al uso de los servicios médicos es una tarea relevante de cara a mejorar la provisión de los servicios sanitarios. El objetivo del presente estudio fue analizar el efecto de la salud percibida y el rasgo de ansiedad en la predicción de la prevalencia general de visitas así como de los visitadores frecuentes (FAS) en una muestra de población española. Los participantes, 1001 adultos de nacionalidad española seleccionados de forma aleatoria, informaron del número de visitas que realizaron a los servicios de atención primaria y especializada en el último año. La prevalencia general de visitas fue de un 70.7%, con una media de 4.11 visitas por año. Una alta salud percibida se asoció con una menor prevalencia de visitas, mientras que las personas con un alto rasgo de ansiedad tuvieron una probabilidad 2.26 veces mayor de acudir a los servicios sanitarios. En cuanto a los FAS, una peor salud percibida así como un alto rasgo de ansiedad se mostraron como predictores significativos incluso tras controlar el efecto de diferentes variables socio-demográficas. Nuestros resultados añaden evidencias acerca de la importancia de las variables psicológicas a la hora de explicar el uso de los servicios médicos y señalan la importancia de atender las necesidades psicológicas de aquellos usuarios que los visitan con mayor frecuencia.

**Palabras clave:** ansiedad rasgo, salud percibida, atención médica, visitadores frecuentes.

**Título:** *Ansiedad rasgo y salud autoinformada como variables predictoras de la atención médica en población española*

Patients are capable of dealing with most of their symptoms without resorting

to health services; nevertheless, in recent years an important increase in the demand of medical attention has been observed, with an estimated 10% rise in the average consultations every ten years (McCormick, Fleming, & Charlton, 1995). This may negatively influence health practice not only affecting public health costs and staff workload, but also doctor-patient relations

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and the ability to establish appropriate care for the patients (Simon, Ormel, VonKorff, & Barlow, 1995).

To understand the factors associated with or that explain visits to the doctor is, therefore, a field of study that deserves attention. In a classic work in this vein (Andersen & Newman, 1973), the authors postulated the existence of social and individual variables that may underlie the use of medical services, including predisposing factors (referring to sociodemographic characteristics), service availability (both spatial and economical), and disease related factors. Although various empirical studies have revealed the influence of some of these variables, for example, be women, live near health centers, or have more severe diseases (Bertakis, Azari, Helms, Callahan, & Robbins, 2000; Green & Pope, 1999; Knox & Britt, 2004; Little et al., 2001). In general terms, this model has only managed to explain a moderate percentage of the variance of the prevalence of medical attention (Dowrick, Bellon, & Gomez, 2000). This has aroused the need to consider other explanatory variables, such as psychological characteristics.

Most works that have associated psychological variables with medical attention have focused on the study of the so-called frequent attenders (FAs), that is, people who visit a doctor with a higher-than-normal frequency (Dowrick et al., 2000; Ferrari, Galeazzi, Mackinnon & Rigatelli, 2008; Vedsted, Fink, Olesen & Munk-Jorgensen, 2001). FAs not only make more use of the diverse health services, for example, emergency services or out-of-hour consultations (Byrne et al., 2003; Martin et al., 2002; Vedsted, Sorensen, Nielsen & Olesen, 2001), they also complain about numerous complications and symptoms (Karlsson, Lehtinen, & Joukamaa, 1995a; 1995b; Katon et al., 1990), thus sometimes hindering the doctor-patient relationship (Lin et al., 1991).

For this group of users, the psychological stress and negative emotions derived thereof have been considered important determinants of medical demand (Campbell & Roland, 1996; Ferrari et al., 2008). Thus, Little et al. (2001) reported that adults with a higher number of visits to the doctor showed a higher level of anxiety, depression, frequent somatic symptoms, and worse self-rated health. In this vein, Karlsson, Joukamaa, Lahti, Lehtinen and Kokki-Saarinen (1997) found that those classified as FAs had higher levels of anxiety and depression, higher prevalence of psychiatric illness and a lower degree of functionality, suggesting that anxiety and depression could be valid instruments for detecting FAs. Likewise, in one of the few investigations carried out with Spanish population, Dowrick et al. (2000) reported that high levels of self-reported depression, via the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), was one of the best predictors of FAs.

Psychological variables, such as anxiety, depression or self-rated health, have not only been confirmed as predictors of FAs but also of medical demand in general. In this sense, Knox and Britt (2004) found that patients with a diagnosis of some kind of anxiety disorder were 2.7 times more likely to demand primary care services in the past year, and that this probability was 2.2 times higher for patients with a diagnosis of depression. In another investigation (Rohrer, 2004), poor self-rated health predicted a higher number of visits to the doctor, and the author underlines the need for health systems to understand the psychological problems that may accompany some patients' physical symptoms.

The results found in these and other works (Ormel, Koeter, van den Brink, & van de Willige, 1991; Ormel et al., 1990; Smucker, Zink, Susman, & Crabtree, 2001) reveal the involvement of diverse psychological variables in explaining visits to the

doctor in users in general and FAs in particular. Even though most of these studies analyzed primary health service use and not so much specialized attention, some studies have reported that FAs are referred to the latter kind of assistance more frequently than the rest of the patients (Reid, Wessely, Crayford, & Hotopf, 2002). Moreover, despite the importance of studying medical demand and the variables associated with it in the improvement of health services (Little et al., 2001), few studies have addressed this issue in Spanish population and, to the best of our knowledge, no studies have examined the relation between trait anxiety and self-rated health with medical demand and FAs.

Taking all this into account, in this study we analyzed the role of two psychological variables: self-rated health and trait anxiety, in predicting the general frequency of reported visits to medical services as well as FAs, considering both the use of primary and secondary care services, in a large sample of Spanish population.

Both in the prediction of the general prevalence of visits and FAs, we expect to find statistically significant differences as a function of trait anxiety (people with high trait anxiety levels will report more health-care visits) and as a function of general self-rated health (people with high self-rated health will use medical services less frequently). On the other hand, we expect to find demographic variables associated with frequent use of medical services as reported in other investigations (Bertakis et al., 2000; Ferrari et al., 2008; Koopmans & Lamers, 2007; Little et al., 2001; Vedsted, Fink et al., 2001). In relation to these findings, we expect to find that women, unemployed and people with higher socioeconomic status report more visits to medical services.

## Method

### *Participants*

The sample comprised 1001 people (416 males and 585 females) with an age range from 25 to 65 years (mean age = 41.65,  $SD = 10.71$ ). Of them, 256 (25.6%) were single, 28 (2.8%) were common-law couples, 640 (63.9%) were married, 51 (5.1%) were separated or divorced, and 26 (2.6%) were widowed. With regard to the level of studies, 39 (3.9%) reported having no studies, 454 (45.4%) had completed primary studies, 340 (34%) medium studies, and 168 (16.8%) higher studies. With regard to their job situation, 401 (40.1%) were working at the time of the assessment, 205 (20.5%) only performed housework, 379 (37.0%) were unemployed, and 16 (1.6%) were retired. Considering their socioeconomic level, 688 people (68.7%) had a medium-low level and 313 (31.3%) a medium-high level. The sampling was subcontracted to a specialized firm that selected the participants by means of random sampling of the National Population Census (National Institute of Statistics, 2005). Therefore, this is a representative sample of the population, as it was selected by a simple random procedure.

### *Instruments*

Reduced Anxiety Scale (ERA; Martínez-Sánchez et al., 1995). This scale consists of 24 items (rated on a 5-point scale) measuring physiological, cognitive, and motor responses of trait anxiety. ERA item examples are "My body is tense," "I wander around and do things without any specific aim," or "I think things over too much without making up my mind." It is a reduced version of The Inventory of Situations and Responses of Anxiety (ISRA; Miguel-Tobal & Cano-Vindel, 2002), a multidimensional measure of trait anxiety derived both from the situation and physiological, cognitive, and behavioral response levels (see Calvo, Averó, Castillo & Mi-

guel Tobal, 2003). In this study, the total ERA anxiety score was used because it is a quick test to administer and has good psychometric properties in Spanish population. Cronbach's alpha for the total scale in this study was .87.

General Health Questionnaire (GHQ-12; Goldberg, 1978). This questionnaire is aimed at assessing people's general health status in non-psychiatric community settings, such as primary care settings. The GHQ has 60 items in its original version although for the present study, we used the reduced 12-item version. It has been adapted to various countries (Gibbons, Flores & Mónico, 2004) and is a simple and widely used questionnaire to assess perceived health. We used the Spanish version which has shown adequate psychometric properties (Sánchez-López & Dresch, 2008). In our study, Cronbach's alpha for this scale was .76.

The sociodemographic variables were assessed with a questionnaire used in previous research (Sánchez-López, Aparicio-García & Dresch, 2006). In addition to gender and age, we considered marital status, educational level, type of occupation, and socio-economic level.

Self-reported visits to a doctor. An ad hoc structured interview was designed to determine each person's number of health-care visits, both to primary and specialized care, in the last 12 months. This measurement has been validated in prior studies (Sánchez-López et al., 2006; Sánchez-López, López-García, Dresch & Corbalán, 2008).

Definition of Frequent attenders. Following the recommendations of other authors (Vedsted, Fink et al., 2001; Vedsted, Mainz & Olesen, 2001), 10% of users of medical services in the past year were considered FAs, stratified by sex and age (24-34 years, 35-49 years, and 50-63 years). As reported in other studies (Dowrick et al.,

2000; Schrire, 1986), if not stratified, the sample could be biased towards older people and towards females. The cut-off points used for the three age levels were  $\geq 10$ ,  $\geq 14$ , and  $\geq 15$  for males, and  $\geq 11$ ,  $\geq 7$ , and  $\geq 15$  for females.

#### *Procedure*

This research is part of a larger project aimed at analyzing the health of men and women in relation to various variables. The sample was randomly selected meeting the following requirements: have at least 18 years old and Spanish nationality. Data were collected in one-hour sessions. Study participants gave their informed consent after receiving an explanation of the purpose of the investigation, with a clear description of the procedures of the study and alternatives to participation that guaranteed their freedom to withdraw at any time from the study without any consequences. Data anonymity was also guaranteed. The sample was interviewed (face-to-face) by four intensively trained and monitored interviewers. Participation was voluntary and participants were not paid. Research was performed according to ethical principles and standards for human research (Touitou, Portaluppi, Smolensky & Rensing, 2004).

#### *Data Analysis*

To analyze the predictors of doctor visits and FAs, we calculated the Odds Ratio (OR) by means of various logistic regression analyses, using the statistical package SPSS 15.0.

## **Results**

The prevalence and mean number of visits to a doctor, including diverse medical specialties, are displayed in Table 1. As can be seen, the percentage of visits in the last 12 months was 70.7%, and the general mean was 4.11 visits. Of the diverse services requested, the highest prevalence (25.4%) was found in the case of family doctors, or primary care, with a mean of

Table 1. Frequency and mean number of visits to each specialist

Specialist	No. of people who visit	%	Mean No. of visits
Family doctor or general practitioner	254	25.4	5.24
Gynecologist	222	22.2	1.98
Dentist	153	15.3	2.79
Traumatologist	114	11.4	3.45
Ophthalmologist	84	8.4	1.49
Otorhinolaryngologist	44	4.4	2.45
Cardiologist	37	3.7	2.35
Neurologist	29	2.9	3.62
Endocrinologist	21	2.1	3.63
Others	18	1.8	5.5
Psychologist or psychiatrist	17	1.7	8.53
Podologist	16	1.6	2.19
Pediatrician	12	1.2	7.36
Surgeon	11	1.1	3.00
Oncologist	11	1.1	3.00
Pneumologist	9	.9	4.56
Allergist	6	.6	7.50
General check-up	3	.3	1.00
Rheumatologist	3	.3	5.67
Neurosurgeon	3	.3	11.33
Total	708	70.7	4.11

5.24 visits. Nevertheless, various secondary care services also have a high prevalence of use, ranging from 22.2% (a mean of 1.98 visits) in the case of gynecology, 15.3% (a mean of 2.79 visits) in dentistry, or 11.4% (a mean of 3.45 visits) in traumatology.

With regard to the predictors of general prevalence of visits, displayed in Table 2, none of the sociodemographic variables considered turned out to be significant predictors. However, as can be observed in Table 3, this prevalence was significantly lower for people with medium and high levels of self-rated health in comparison with those with a low level (OR = 0.62, CI = 0.44-0.87, and OR = 0.51, CI = 0.39-0.72, respectively); likewise, people with high trait anxiety were 2.26 times more likely to request medical attention in the past year (CI = 1.59-3.19) in comparison to those with low trait anxiety.

With regard to FAs, those with a higher socio-economic level (OR = 1.72, CI = 1.06-2.77), who only performed housework

(OR = 2.32, CI = 1.27-4.23) or who were retired (OR = 5.63, CI = 1.57-20.12) were more likely to be considered FAs (see Table 4). With regard to the psychological variables, prevalence of FAs was lower among people with a higher level of self-rated health, in comparison to those with a lower level (OR = 0.50, CI = 0.27-0.93), and people with high trait anxiety were 2.59 times more likely to be considered FAs (CI = 1.44-4.68) than those with low trait anxiety (see Table 5).

In order to analyze the role of psychological variables in explaining the prevalence of FAs after controlling for the effect of sociodemographic variables, we carried out a logistic hierarchical regression analysis. In the first step, we entered the sociodemographic variables that had been shown to be significant predictors; in the second step, we included the level of self-rated health; and in the last step, trait anxiety. The results are shown in Table 6. As can be observed, people with high trait anxiety were 2.01 times more likely to be FAs after

Table 2. Prevalence of medical service use as a function of sociodemographic variables

	Medical service use			
	N	%	OR	CI 95%
Total	708	70.7		
Sex				
Male	292	70.2	--	
Female	416	71.1	1.04	.79 1.37
Civil status				
Single	176	68.8	--	
Common law couple	18	64.3	.81	.36 1.85
Married	461	72.0	1.17	.85 1.60
Separated or divorced	35	68.6	.99	.52 1.90
Widowed	18	69.2	1.02	.42 2.45
Educational level				
No studies	29	74.4	--	
Primary studies	320	70.5	.82	.39 1.73
Middle studies	245	72.1	.88	.41 1.89
Higher studies	114	67.9	.72	.33 1.60
Socio-economic level				
Medium-low	493	71.7	--	
Medium-high	215	68.7	.86	.64 1.16
Job situation				
Working	282	70.3	--	
Only housework	152	74.1	1.21	.82 1.76
Unemployed	262	69.1	.94	.69 1.28
Retired	12	75.0	1.26	.40 4.00
Age				
25-34	218	70.3	--	
35-49	286	69.4	.95	.69 1.32
50-63	204	73.4	1.16	.81 1.66

Table 3. Prevalence of medical service use as a function of the level of self-rated health and trait anxiety

	Medical service use			
	N	%	OR	CI 95%
Total	708	70.7		
Self-rated health				
Low	284	77.8	--	
Medium	226	68.7	.62	.44 .87
High	198	64.5	.51	.36 .72
Trait anxiety				
Low	230	64.1	--	
Medium	216	68.6	1.22	.88 1.68
High	262	80.1	2.26	1.59 3.19

controlling for the effect of socio-economic status, current job situation, and self-rated health. However, although self-rated health was found to be a significant predictor of FAs (after considering the effect of socio-demographic variables) and people with high self-rated health were less likely to visit the doctor/to become FAs than those with a low level (OR = 0.52, CI = 0.28-0.96), this effect disappeared when trait anxiety was included in the last model (OR = 0.95, CI = 0.46-1.97).

**Discussion**

Individual responses to complaints about a symptom depend not only on the physical characteristics, but also on diverse

biological, psychological, and social factors (Vedsted, Fink et al., 2001). Many studies carried out with different populations have reported a positive relationship between psychological distress and use of medical attention (Campbell & Roland, 1996; Karlsson et al., 1997; Little et al., 2001), and it has been considered that most of the FAs in primary care (more than 50%) present psychological problems (Vedsted & Christensen, 2005). However, in Spanish population there is little evidence relating psychological variables with the number and frequency of visits to our public health services. Along the lines of these works, the goal of the present study was to analyze the role of self-rated health and trait anxiety in predicting the prevalence of

Table 4. Prevalence of FAs of medical services as a function of sociodemographic variables

	Frequent attenders (FAs)			
	N (708)	%	OR	CI 95%
Total	80	11.3		
Sex				
Male	34	11.6	--	
Female	46	11.1	.94	.58 1.51
Civil status				
Single	18	10.2	--	
Common law couple	4	22.2	2.50	.74 8.43
Married	49	10.6	1.04	.59 1.84
Separated or divorced	6	17.1	1.81	.66 4.96
Widowed	3	16.7	1.75	.46 6.65
Educational level				
No studies	1	3.4	--	
Primary studies	46	14.4	4.70	.62 35.39
Middle studies	25	10.2	3.18	.41 24.39
Higher studies	8	7.0	2.11	.25 17.60
Socio-economic level				
Medium-low	47	9.5	--	
Medium-high	33	15.3	1.72	1.06 2.77
Job situation				
Working	23	8.2	--	
Only housework	26	17.1	2.32	1.27 4.23
Unemployed	27	10.3	1.29	.72 2.31
Retired	4	33.3	5.63	1.57 20.12
Age				
25-34	24	11.0	--	
35-49	23	11.3	1.05	.60 1.84
50-63	33	11.5	1.027	.56 1.88

Table 5. Prevalence of FAs of medical services as a function of the level of self-rated health and trait anxiety

	Frequent attenders (FAs)			
	N (708)	%	OR	CI 95%
Total	80	11.3		
Self-rated health				
Low	42	14.8	--	
Medium	22	9.7	.62	.35 1.07
High	16	8.1	.50	.27 .93
Trait anxiety				
Low	17	7.4	--	
Medium	18	8.3	1.13	.57 2.27
High	45	17.2	2.59	1.44 4.68

Table 6. Hierarchical logistic regression of the prediction of FAs of medical services

	Frequent attenders (FAs)					
	Model 1		Model 2		Model 3	
	OR	CI 95%	OR	CI 95%	OR	CI 95%
Socio-economic level						
Medium low	--		--		--	
Medium high	1.97	1.18 3.27	2.02	1.21 3.36	2.09	1.25 3.48
Labor situation						
Working	--		--		--	
Only housework	2.55	1.38 4.69	2.37	1.28 4.39	2.22	1.19 4.14
Unemployed	1.60	.87 2.96	1.52	.82 2.81	1.51	.81 2.80
Retired	7.04	1.92 25.81	6.75	1.83 24.89	5.63	1.50 21.12
Self-rated health						
Low			--		--	
Medium			.63	.36 1.12	.78	.43 1.41
High			.52	.28 .96	.72	.36 1.45
Trait anxiety						
Low					--	
Medium					.95	.46 1.97
High					2.01	1.02 3.95

self-reported visits to the medical services, taking into account both primary care and specialized attention services.

The results indicate a high prevalence of health care use: 70.7% of participants in our sample reported having used the medical services at least once during the past year corroborating data gathered in other studies with Spanish population (Dowrick et al., 2000). Moreover, this high prevalence was observed both in primary care attention (25.4%) and in various specialized services (22.2% in gynecology,

15.3% in dentistry, and 11.4% in traumatology), in accordance with other investigations (Knox & Britt, 2004; Ladwig, Marten-Mittag et al., 2000; Vedsted, Fink et al., 2001).

When studying the variables that predict the use of medical services in our work, we used two indicators: on the one hand, the prevalence of visits in general and, on the other, the prevalence of FAs (Vedsted, Fink et al., 2001; Vedsted, Mainz et al., 2001). With regard to the prevalence of visits in general, none of the sociodemo-

graphic factors studied turned out to be significant predictors; however, and in line with previous research (Knox & Britt, 2004; Rohrer, 2004), people with high trait anxiety and poor self-rated health were shown to be more likely to request medical assistance in the last year.

Regarding FAs, a higher socioeconomic status and only performing housework or being retired, were found to be significant predictors. A possible explanation for this positive relationship between socioeconomic status and FAs may be the fact that people with a higher economic level have easier access to different health services and can benefit from other health services, such as private services, and they can also move around better. With regard to the job situation, although some studies found no significant differences as a function of this variable (Little et al., 2001; Reid et al., 2002; Vedsted, Fink et al., 2001), in an extensive review of the predictors of FAs, it was found that FAs were more likely to be unemployed (Vedsted & Christensen, 2001; 2005), which is congruent with the results found in our work. However, other variables usually linked to FAs, such as sex or age, were not significantly associated with it. In this sense, and although we did not analyze it here, there might be an interaction between sex and performing only housework, as well as between age and being retired, in the prediction of FAs in our sample. Thus, women who are housewives and older people who are retired may be more likely to be FAs.

With regard to the psychological factors studied as predictors of FAs, high trait anxiety and poor self-rated health have been confirmed as variables typically present in this kind of users, even after controlling for various sociodemographic factors. This result is in accordance with other investigations (Dowrick et al., 2000; Karlsson et al., 1997; Little et al., 2001; Rohrer,

2004; Vedsted, Fink et al., 2001), and it contributes data on the importance of these psychological variables in explaining why certain people become FAs. Moreover, our results extend the data found in the literature by corroborating the relationship between these psychological variables and the FAs by including not only the number of visits to primary care but also to specialized attention.

Most users seek medical care because of physical symptoms. In this regard, it may be that such physical symptoms—associated with anxiety and, as a result of the activation of the sympathetic branch of the autonomous nervous system (i.e., sweating, headaches, upset stomach, nausea, muscle tension, etc.)—cause people with high trait anxiety to wander from one medical service to another, at first to primary care and subsequently to specialized attention, often referred by the general practitioner. In this sense, various studies have found highly present “unexplained symptoms” (symptoms that cannot be explained by any physical illness) in FAs who require specialized attention (Bass, Hyde, Bond & Sharpe, 2001; Karlsson et al., 1997; Reid et al., 2002).

Assessment of the degree of FAs’ anxiety may therefore be of great use when ruling out the presence of possible psychopathological problems or anxiety-related disorders. An appropriate diagnosis of these problems may, in turn, lead to implementing adequate treatment for these people (Cano-Vindel, 2011). In this sense, there is some evidence of the effectiveness of psychological treatments, mainly of a cognitive-behavioral nature, carried out with patients with unexplained symptoms (Mayou & Sharpe, 1997).

When generalizing our conclusions, it is important to take into account some methodological limitations of this study. First, when determining the number of visits to

medical services, we did not use the number of objective visits registered by the health services as a reference, as was done in other studies (Knox & Britt, 2004; Little et al., 2001), but instead the number of visits reported by each person in the structured interview. Some authors have suggested the possibility that the use of self-reports "overrates" the prevalence of the visits (Knox & Britt, 2004), either because of the introduction of a memory bias (people with a higher trait anxiety or who perceive themselves as having worse health may be influenced by their negative mood and may remember a higher number of visits than were actually made) or because of a bias in the use of a common method variance bias. Despite these limitations, self-reports have been used extensively in the study of FAs. For example, in a literature review (Vedsted & Christensen, 2005), more than 50% of the studies reviewed used self-reports as the instrument to assess the use of medical services. Moreover, the influence of psychological variables like anxiety and perceived health on the use of medical services was similar both in the studies that used self-report measures and in those that used data recording (for a review, see Vedsted & Christensen, 2005). Self-report of visits has also been shown to have adequate temporal stability ( $r=0.82$ ) and good overall agreement between self-reported attendance and General Practices' records (rank correlation  $r = 0.76$ ) in a large adult sample (Little et al., 2001). All the above has lead diverse authors to consider the self-report of visits an appropriate method to analyze the kind of relations we propose in our hypotheses (Knox & Britt, 2004). Second, although one of our goals was to analyze the frequency of visits both to primary care services and to secondary services, an aspect that has not received much attention previously, we did not examine whether there were differences

between them. Future works should analyze whether the predictors of visits to the doctor and FAs are similar in both types of medical assistance or whether there are differences in the sociodemographic variables and psychological characteristics of those who visit primary care and specialized medical services. Finally, although this study was focused on examining the associations between trait anxiety and self-rated health with medical care utilization, other symptoms consequence of stress or of depression are also highly prevalent among users of health care services and could explain frequent use of primary and specialized attention. In this sense, future works examining jointly the influence of trait anxiety, stress and depression will allow us to gain a more complete understanding of the emotional symptoms associated with medical care utilization.

Despite these limitations, our results replicate the data found in other cross-sectional and longitudinal studies and they clear the way for future longitudinal works with Spanish population. In general, this study points to the fact that visits to health services are to a good extent explained by psychological variables such as anxiety and self-rated health. In view of this, medical services should be aware of users' psychological needs, mainly those of the FAs, and they should have resources to detect them correctly, for example, through access to better training in the diagnosis of psychological problems or by the creation of reliable screening tests. This type of action might reduce the problems and costs that FAs generate for health services and could improve the quality of care and treatment they require.

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