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Brief report

Diagnosis delay in first episodes of major depression: A study of primary care patients in Spain

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ABSTRACT

Background: Diagnosis delay may negatively influence the clinical course of major depression; however, few studies have analysed the role of environmental factors on diagnosis delay. This study was aimed to identify personal and environmental factors related to a longer delay.
Methods: A cross-sectional observational study with 3615 primary care patients with a first diagnosis of major depression was conducted. Diagnosis delay was defined as the time between onset of symptoms and diagnosis of major depression.
Results: Mean of delay was 9.89 weeks. Lower years of education, triggering stressful life events before the current episode, history of previous undiagnosed depressive episodes and somatic comorbidity were related to longer delay. Health system variables, such as urban setting, public health care setting, younger doctors and female doctors were also related to a longer delay.
Limitations: Onset of first depressive symptoms was retrospectively collected. The cross-sectional design does not allow making inferences about the temporal ordering between predictors and outcomes.
Conclusions: Both personal and environmental variables were related to diagnosis delay. Identification of these factors helps to design early diagnosis programs to ultimate reduce the morbidity associated with major depression.

1. Introduction

Major depression (MD) is a priority for global healthcare, for four main reasons: firstly, its high prevalence (Bromet et al., 2011); secondly, depressive disorders are leading contributors to global burden of disease (Vos et al., 2013); thirdly, a wide range of depressive patients avoid seeking professional care (Goldberg et al., 1998; Vázquez-Barquero et al., 2009); and, fourthly, health professionals often fail to manage depressive disorders properly (Fernández et al., 2007; Mitchell et al., 2009a).

Early diagnosis and intervention are among the priority actions for reducing the burden of mental disorders (Collins et al., 2011). One of the aims in early diagnosis is to reduce the *duration of untreated illness* (DUI), i.e. time between onset of symptoms and administration of first treatment (Dell'osso and Altamura, 2010). Although DUI has been found to be shorter for MD than for other mental disorders (Wang et al., 2007; Altamura et al., 2010), a shorter DUI has been associated with faster antidepressant responses (Vázquez-Barquero et al., 2009; De Diego-Adelino et al., 2010). Moreover, longer DUI has been related to recurrences and longer duration of episodes (Scott et al., 1992; Altamura et al., 2008; Bukh et al., 2012). Several studies have already identified factors related to longer DUI in MD: female gender, earlier age at onset, comorbid Axis I problems, longer duration of the current depressive episode, and higher number of previous episodes (Altamura et al., 2007, 2008). However, there is a lack of research into relationships between diagnosis delay in MD and health system-related factors (Baldwin, 2011). Additionally, previous findings have been mainly collected in specialised health care settings, whereas DUI in primary care has been less studied.

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Therefore, the objective of the present paper is to examine whether a range of patient, environmental and health system factors are related to diagnosis delay in primary care patients with MD.

2. Methods

2.1. Study design

Current data were derived from the ERASMAP study, a cross-sectional observational study that included a sample of the Spanish primary care population with a first diagnosis of MD. The sample was collected all 17 of Spain's autonomous communities (self-governing regions). Selection was performed by general practitioners (GP). Further information on the ERASMAP study may be consulted elsewhere (Luciano et al., 2010).

2.2. Sample

3615 patients were enroled at 874 primary care centres. Inclusion criteria were, > 18 years old and first diagnosis of MD (DSM-IV). Diagnosis of MD was based on the GPs' clinical judgment.

Patients were excluded from participation if they had a previous diagnosis of MD, bipolar disorder, schizophrenia and delusional disorders. All these diagnoses were based on the GPs' clinical judgment. In addition, patients who received psychopharmacological treatment at the time of assessment were also excluded.

Study was conducted in accordance with the Helsinki Declaration as revised 1989 and was approved by the Clinical Research and Ethics Committee of the University Hospital La Princesa (Madrid, Spain).

2.3. Variables

2.3.1. Diagnosis delay

This was defined by the time (in weeks) between the onset of depressive symptoms and diagnosis of MD (based on DUI concept). Information of first symptoms was collected from patients' reports using the question: *"How long ago did the current depressive symptoms or episode begin?"*

2.3.2. Patients' variables

The following socio-demographic information was collected on patients: gender, age, marital status, employment, level of education, weight, height, and patient's setting (urban > 100,000 population, semi-urban = 20,000–100,000, and rural < 20,000) (see Table 1).

Severity of depressive symptoms was ascertained using the Patient Health Questionnaire 9-item Depression Module (Díez-Quevedo et al., 2001).

Other patient-reported outcomes were, number of physical comorbidities, collected with the Chronic Medical Conditions' Checklist (World Health Organization, 2002); history of undiagnosed depressive episodes (yes/no), triggering stressful life events before the current depressive episode (yes/no) using the question: "was there any triggering life event for the current depressive symptoms?", and history of asking for help from other professionals (e.g. pharmacists, spiritual counsellors) (yes/no).

2.3.3. Environmental variables

Some health system variables were included, such as, type of health care system (public, private, and mixed), main reason

Table 1
Linear regression analyses of factors related to diagnosis delay (reference categories in brackets).

Parameter	Parameter estimate	Estimate 95% confidence interval	Standard error	*t*-Value	*p*
GP Medical Specialty (ref. psychiatry)					
Family Medicine	0.55	−1.72/2.83	1.16	0.48	0.63
Other	2.67	0.46/4.07	0.92	2.45	0.01
Physician's gender (ref. female):					
Male	−1.5	−2.38/−0.62	0.5	−3.33	< 0.001
Setting (ref. urban)					
Rural (< 20000 hab.)	−1.17	−2.09/ −0.26	0.47	−2.51	0.01
Semi-urban (20,000–100,000)	−0.77	−1.66/ 0.11	0.45	−1.71	0.09
Level of Education (ref. degree/postgraduate)					
Illiterate	4.2	0.20/8.19	2.04	2.06	0.04
Primary school uncompleted	0.4	−1.07/1.87	0.75	0.53	0.59
Primary school completed	−0.13	−1.64/1.39	0.77	−0.16	0.87
Secondary school	−0.91	−2.38/0.56	0.75	−1.21	0.23
High school	−0.36	−1.86/1.14	0.76	−0.47	0.64
Vocational training I	−1.38	−3.11/0.34	0.88	−1.57	0.12
Vocational training II	−1.69	−3.57/0.18	0.96	−1.77	0.07
Associate degree	−0.55	−2.07/0.97	0.78	−0.71	0.48
Stressful life events					
Yes	1.12	0.41/ 1.84	0.36	3.07	0.003
Previous undiagnosed depressive episodes (ref. No)					
Yes	1.81	0.96/ 2.65	0.43	4.18	< 0.0001
Physicians' age (ref. < 35 years)					
35– < 40 years	−3.45	−5.63/−1.28	1.11	−3.12	0.002
40– < 45 years	−3.61	−5.63/−1.60	1.03	−3.52	< 0.001
45– < 50 years	−3.45	−5.32/−1.59	0.95	−3.63	< 0.001
50– < 55 years	−4.70	−6.61/−2.8	0.97	−4.84	< 0.001
55– < 60 years	−4.71	−6.8/−2.63	1.06	−4.43	< 0.001
60– < 65 years	−2.61	−5.11/−0.10	1.28	−2.04	0.04
> 65 years	−4.94	−9.26/−0.63	2.20	−2.24	0.025
Number of comorbid conditions	0.49	0.26/0.72	0.12	4.11	< 0.001