Journal of Affective Disorders 172 (2015) 110–115

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

# Transcultural adaption and validation of the Spanish version of the Bipolar Depression Rating Scale (BDRS-S)

Salvador Sarró [a], Mercè Madre [a,b], Paloma Fernández-Corcuera [a,b], Marc Valentí [c], José M. Goikolea [c], Edith Pomarol-Clotet [a], Michael Berk [d,e], Benedikt L. Amann [a,*]

[a] FIDMAG Germanes Hospitalàries Research Foundation, CIBERSAM, Barcelona, Spain
[b] Benito Menni Complex Assistencial en Salut Mental, Sant Boi de Llobregat, Spain
[c] Bipolar Disorders Program, Hospital Clínic Barcelona, IDIBAPS, CIBERSAM, Barcelona, Catalonia, Spain
[d] IMPACT Strategic Research Centre, Deakin University, School of Medicine, Australia
[e] Orygen Youth Health Research Centre, Florey Institute for Neuroscience and Mental Health and, Department of Psychiatry, University of Melbourne, Australia

ARTICLE INFO

*Article history:*
Received 18 September 2014
Received in revised form
1 October 2014
Accepted 1 October 2014
Available online 12 October 2014

*Keywords:*
Bipolar disorder
BDRS
Bipolar depression
Mixed episode
Rating scale
Validation

ABSTRACT

*Background:* The Bipolar Depression Rating Scale (BDRS) arguably better captures symptoms in bipolar depression especially depressive mixed states than traditional unipolar depression rating scales. The psychometric properties of the Spanish adapted version, BDRS-S, are reported.
*Methods:* The BDRS was translated into Spanish by two independent psychiatrists fluent in English and Spanish. After its back-translation into English, the BDRS-S was administered to 69 DSMI-IV bipolar I and II patients who were recruited from two Spanish psychiatric hospitals. The Hamilton Depression Rating Scale (HDRS), the Montgomery–Asberg Depression Rating Scale (MADRS) and the Young Mania Rating Scale (YMRS) were concurrently administered. 42 patients were reviewed via video by four psychiatrists blind to the psychopathological status of those patients. In order to assess the BDRS-S intra-rater or test–retest validity, 22 subjects were assessed by the same investigator performing two evaluations within five days.
*Results:* The BDRS-S had a good internal consistency (Cronbach's $\alpha$=0.870). We observed strong correlations between the BDRS-S and the HDRS ($r$=0.874) and MADRS ($r$=0.854) and also between the mixed symptom cluster score of the BDRS-S and the YMRS ($r$=0.803). Exploratory factor analysis revealed a three factor solution: psychological depressive symptoms cluster, somatic depressive symptoms cluster and mixed symptoms cluster.
*Limitations:* A relatively small sample size for a 20-item scale.
*Conclusions:* The BDRS-S provides solid psychometric performance and in particular captures depressive or mixed symptoms in Spanish bipolar patients.



## 1. Introduction

Bipolar depression is a significant cause of psychiatric morbidity and mortality and thus a major public health concern. As part of the natural course of the disease, people suffer more frequently from depressive than (hypo)manic episodes and depressive episodes also last longer than (hypo)manic episodes (Judd et al., 2003, 2002). Furthermore, in contrast to manic or mixed episodes which are specific for bipolar disorder, and usually lead to the immediate diagnosis of bipolar disorder, depressive episodes are non-specific, and thus do not differentiate whether the final long-term diagnosis is unipolar depression or bipolar disorder. It has been estimated that more than half of originally unipolar depressed patients are diagnosed from bipolar disorder within the next 20 years (Goldberg et al., 2001).

In addition, patients with bipolar depressive episodes differ in clinical and psychopathological aspects compared to unipolar depression. Bipolar depressed patients have more substance use disorders (Tohen et al., 1998), a higher risk of suicide, present with more psychotic symptoms (Mitchell et al., 2001) and atypical depressive features, such as hypersomnia, hyerphagia, fatigue and rejection sensitivity (Angst and Sellaro, 2000; Cuellar et al., 2005; Judd and Akiskal, 2003). Furthermore, irritability, lability and mixed states during depressive episodes are more frequent in bipolar depression, the latter e.g. in half of all bipolar II patients (Benazzi, 2004; Dell'Osso et al., 1991).

Commonly used depression rating scales for the evaluation of unipolar depression include the Hamilton Depression Rating Scale

* Corresponding author.Tel.: +34 936529999; fax: +34 936400268.
*E-mail address:* benedikt.amann@gmail.com (B.L. Amann).

http://dx.doi.org/10.1016/j.jad.2014.10.009
0165-0327/

(HDRS) (Hamilton, 1960), the Inventory of Depression Symptomatology (IDS) (Trivedi et al., 2004) and the Montgomery–Asberg Depression Rating Scale (MADRS) (Montgomery and Asberg, 1979). For decades they have been also used in clinical and research practice in bipolar disorder, although they do not capture many core symptoms of bipolar depression, including mixed states and atypical features (Berk et al., 2004; Serretti and Olgiati, 2005). Therefore, Berk et al. (2007) published the first instrument, the Bipolar Depression Rating Scale (BDRS), specifically designed to detect and measure the symptoms of bipolar depression. The authors incorporated the evaluation of atypical symptoms, like hypersomnia or increased appetite, or mixed symptoms, such as irritability, lability, increased motor drive and increased speech. The BDRS consists of 20 clinical items associated with the depressive phase of the disease

The BDRS scale has so far been translated in various languages and published in Turkish and Iranian (Batmaz et al., 2014; Shabani et al., 2010). To offer this scale to the clinical and scientific Hispanosphere, we translated and validated a Spanish version of the BDRS scale, the BDRS-S, and its manual.

## 2. Methods

### 2.1. Participants

Sixty-nine (37 females) bipolar I and II disorder patients diagnosed according to DSM-IV criteria (based on a psychiatrist interview and the review of case-notes) were recruited from two Spanish psychiatric centers, the Benito Menni Complex Assistencial en Salut Mental, Sant Boi de Llobregat, ($n=59$) and at Bipolar Disorders Program, Hospital Clínic, Barcelona, ($n=10$). Patients, aged 18–65 years, included both inpatients and outpatients and presented at the time of the evaluation with subsyndromal, depressive or mixed or (hypo)manic symptoms. We collected demographical data and patients were evaluated with respect to their mood state using the BDRS-S, the HDRS, the MADRS and the Young Mania Rating Scale (YMRS) (Young et al., 1978). Patients were excluded if they had a neurological disease or substance dependency in the last 12 months.

All patients were receiving standard medication for bipolar disorder, including antidepressants, mood stabilizers (lithium, valproate, carbamazepine, lamotrigine or combinations) and antipsychotic drugs (typical and/or atypical antipsychotics). Fifty-eight subjects (83.8%) were taking one or more mood-stabilizers and 30 subjects (44.1%) one or more antidepressants. A high percentage of included subjects were also receiving antipsychotics treatment ($n=57$; 89.1%; data missing for 5 subjects), with 48 subjects receiving atypical antipsychotics (mean chlorpromazine equivalent dosage: $435.44 \pm 638.87$ mg/d) and 4 with typical antipsychotics (mean chlorpromazine equivalent dosage: $435.00 \pm 496.66$ mg/d). Five subjects received a combination of typical and atypical antipsychotics (mean chlorpromazine equivalent dosage: $562.00 \pm 272.30$ mg/d) (Table 1).

The investigation was carried out in accordance with the latest version of the Declaration of Helsinki; the study design was reviewed by the local ethics committee "CEIC Hermanas Hospitalarias" (Barcelona, Spain) and written informed consent of the participants was obtained after the nature of the procedures had been fully explained. All participants were also informed in case of their non-participation that this has no direct or indirect influence or consequence on their usual treatment.

### 2.2. Procedure

Firstly, the BDRS scale and manual were translated into Spanish by two psychiatrists fluent in English and Spanish (BA and JG). The 20 items of the scale and the manual were then revised and modified, where necessary. A final version of the scale and its manual were discussed and consented by three authors of the study (SS, JG and BA). The final version was back-translated into English and sent to the corresponding author of the original publication for approval (Berk et al., 2007).

Included subjects were assessed by 5 psychiatrists who administered the BDRS-S via its manual, the HDRS, the MADRS and the YMRS. All raters were clinical psychiatrists with more than 10 years clinical experience, experts in bipolar disorder and received a formal training on the use of the scales employed. All raters had previously performed five interviews in the use of the BDRS-S and had to reach an internal concordance of at least 0.80. The clinical interview of the BDRS-S was also video recorded.

The inter-rater reliability of the BDRS-S was established on the basis of ratings of 42 video recorded evaluations that were performed by 4 of the psychiatrists involved in the study. Each rater evaluated independently the videos and administered the

**Table 1**
Sociodemographic and clinical characteristics of the sample ($n=69$).

| | |
|---|---|
| Age (years, mean, SD) | 45.33 (9.86) |
| Gender *n* (%) | |
| Male | 32 (46%) |
| Female | 37 (54%) |
| Diagnosis *n* (%)[a] | |
| Bipolar I | 46 (72%) |
| Bipolar II | 18 (28%) |
| Age of onset (years, mean, SD) | 27.25 (11.07) |
| Duration of illness (years) | 17.91 (11.59) |
| Marital status *n* (%)[b] | |
| Never married | 19 (44.2%) |
| Married | 16 (37.2%) |
| Divorced | 8 (18.6%) |
| Educational level *n* (%)[b] | |
| Up to 5 years | 19 (44.2%) |
| 5–8 year | 15 (37.2%) |
| 8–11 years | 5 (18.6%) |
| Over 11 years | 2 |
| Medication *n* (%)[c] | |
| SSRI | 10 (15%) |
| SSRI with other antidepressant | 30 (44%) |
| Lithium | 22 (32%) |
| Anticonvulsants | 17 (25%) |
| Combination mood stabilizer | 18 (26%) |
| Typical AP | 4 (6%) |
| Atypical AP | 48 (75%) |
| Combination typical/atypical AP | 5 (8%) |

SSRI: Serotonin Reuptake inhibitor; and AP: Antipsychotic medication.

[a] Data missing for 5 patients.
[b] Data missing for 23 patients.
[c] Data missing for 1 patient.

**Table 2**
Descriptive characteristics of the sample at evaluation ($n=69$).

| | Clinical descriptor | |
|---|---|---|
| **Mood state (*n*, %)** | Manic episode | 3 (4) |
| | Hypomanic episode | 2 (3) |
| | Subsyndromal hypomania | 1 (1) |
| | Euthymic | 4 (6) |
| | Subsyndromal depression | 11 (16) |
| | Depressive episode | 43 (62) |
| | Mixed subsyndromal | 3 (4) |
| | Mixed episode | 2 (3) |
| **Scales (mean, SD)** | YMRS score | 5.54 (6.22) |
| | HDRS score | 19.77 (9.46) |
| | MADRS score | 24.20 (11.32) |
| | BDRS score | 25.71 (10.28) |

Abbreviations: YMRS: Young Mania Rating Scale; HDRS: Hamilton Depression Rating Scale; MADRS: Montgomery–Asberg Depression Rating Scale; and BDRS: Bipolar Depression Rating Scale.