P. Álvarez Mas[1]
P. Benavent Rodríguez[2]
J. M. García Valls[2]
L. Livianos Aldana[2]
L. Rojo Moreno[2]

Translation and adaptation in the Spanish environment of the Altman Self-Rating Mania Scale

[1] USM of Manises
[2] Hospital Universitario La Fe
Valencia (Spain)

Introduction. The aim of the present study is the translation, adaptation and validation in the Spanish environment of a self-rating of mania scale, the Altman Self-Rating Scale for Mania (ASRM), to fulfill a need in our environment in the self-rating of mania.

Methods. The scale was translated, and then a back translation was done. This was sent to the author of the original scale. The scale was administered to a sample of 74 patients with bipolar disorder, divided into two groups, one formed by patients with acute mania (n = 35) and the other one constituted by asymptomatic patients (n = 39). Concurrently we applied the Clinician Administered Rating Scale for Mania (CARS-M) and the Numeric Evaluation Scale (NES).

Results. High internal consistency, high and significant correlation with the CARS-M mania sub-scale, as well as with the NES and very significant differences between the two groups in the scale score were found. The ROC curve indicates excellent adjustment of the scale, when discriminating among bipolar patients with and without manic symptoms. The factorial analysis provided a single factor that accounts for 62 % of the total variance.

Conclusions. The Altman Self-Rating Mania Scale is shown to be a reliable and valid self-rating instrument to assess the presence and intensity of manic symptoms. It makes it possible to carry out simple and quick assessments of the patient's state, can be used for research as clinical objectives and can also be a screening instrument.

Palabras clave:
Evaluation. Mania. Bipolar disorder. Self-Rating Scale.

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Traducción y adaptación de la *Altman Self-Rating Manial Scale* al ámbito español

Introducción. El objetivo del presente trabajo es la traducción, adaptación y validación en el ámbito español de una escala de autoevaluación de la manía, denominada Altman Self-Rating Mania Scale (ASRM), con lo que se trata de cubrir el vacío existente en nuestro ámbito en la autoevaluación de la manía.

Métodos. Se tradujo la escala y a continuación se realizó la traducción inversa, que fue remitida al autor de la escala original. Fue aplicada a 74 pacientes con trastorno bipolar, que fueron divididos en dos grupos, uno formado por pacientes con sintomatología activa maníaca (n = 35) y otro constituido por pacientes asintomáticos (n = 39). Concurrentemente se aplicó la Escala para la Valoración de la Manía Administrada por Clínicos (EVMAC) y la Escala de Valoración Numérica.

Resultados. Se encontró alta consistencia interna, alta y significativa correlación con la subescala de manía de la EVMAC, así como con la Escala de Valoración Numérica, y diferencias muy significativas entre los dos grupos en la puntuación de la escala. La curva COR indicó excelente ajuste de la escala al discriminar entre pacientes bipolares con y sin síntomas maníacos. El análisis factorial arrojó un solo factor, que explica el 62 % de la varianza total.

Conclusiones. La Escala Autoaplicada de Manía de Altman demuestra ser un instrumento autoaplicado, fiable y válido para medir la presencia y gravedad de la sintomatología maníaca. Permite realizar valoraciones sencillas y rápidas del estado del paciente, pudiendo ser utilizada con fines de investigación, clínicos y como instrumento de cribado.

Key words:
Evaluación. Manía. Trastorno bipolar. Escalas autoaplicadas.

INTRODUCTION

During the short history of psychometry, much energy has been invested in the assessment of depression. In fact,

Correspondence:
Paloma Álvarez Mas
Poeta Querol, 10
46002 Valencia. Spain
E-mail: palalma@ono.com

there are many questionnaires, scales and inventories that have been made and used with this objective, many of which have been translated and adapted to our setting. This has not occurred with the mania measurement instruments, whose proliferation has been much less and later, and their translation and adaptation to the Spanish population have also been very scarce, to not say almost non-existent.

The design of specific mania scales, having good reliability and validity levels, began to proliferate in the 1970's. In the first place, heteroapplied scales, that are filled out by someone other than the patient, began to develop. Within this type of scales, Livianos et al. have translated and adapted some of them to the Spanish setting with adequate reliability and validity levels. These are, for example, the Manic Interpersonal Interaction Scale[1], the Clinician Administered Rating Scale for Mania (which we will speak about further on as it is a scale used in this investigation), scales that only measure the manic pole. Within the scales that evaluate bipolarity in our setting, the Analogue Visual Scale and Manchester Nurse Rating Scale for Mania[2] (also adapted by Livianos et al.) can be used.

The self-rating scales were the gold standard in the nineties. These scales are answered by the patient. Up to recently, and perhaps even now, some authors have considered that manic patients cooperated little and that they did not have the capacity to judge or evaluate their own symptoms adequately. Along this line, Plattman[3] compared heteroevaluations with self-evaluations of patients in manic state, finding a very small correlation between them. This correlation increased when the subject came out of the manic episode. Perhaps it was this point of view that delayed the development of mania self-rating scales that began to proliferate significantly in the decade of the nineties and not in the seventies as the other mania evaluation scales. It is precisely in the decade of the nineties when this idea began to be rejected by different authors, among whom we find Bauer[4], Shugar[5], Cooke[6] and Altman[7], who found high correlations between self-rating and hetero-rating scales and who demonstrated that the patients who had disease awareness did not differ from those lacking it and that disease awareness was not significantly related with self-evaluations.

Within the mania self-rating scales that evaluate the manic pole, we find the M-D Scale, Self-Rating Manic Inventory[5], Altman Self-Rating Mania Scale (main object of this study), and Goldberg Mania Questionnaire[8]. On the other hand, within bipolarity evaluation, we find the Analogue Visual Scale, Internal State Scale and the Chinese Polarity Inventory[9].

The objective of this present study is to offer the translation and adaptation of a mania self-rating scale to the Spanish setting, since no scales having these characteristics are available for the evaluation of mania in our setting, while some hetero-rating scales have already been adapted. In this way, it is aimed to begin to cover the gap existing in Spain in the assessment of mania by the patients themselves. The Altman Self-Rating Mania Scale (ASRM) has been selected as it is a short scale, that can be used to measure the presence and severity of manic symptoms, both for clinical as well as investigations objectives[7]. Analysis of the Altman Self-Rating Mania Scale indicates a good concurrent validity as it highly correlates with the criterion selected as «gold pattern», the mania subscale called Clinical Administered Rating Scale for Mania, both in the pretreatment as well as subsequent measures[10]. It is also shown to be sensitive to the change produced by the treatment and has very high sensitivity to detect acute symptoms. This scale has also been demonstrated to be valid, reliable and sensitive to change or improvement with follow-up in treatment in another study[7].

METHODS

Test description: Altman Self-Rating Mania Scale (ASRM)

In 1997 Altman et al.[7] published the Altman Self-Rating Mania Scale (ASRM). The scale is made up of several groups of five statements. Each patient should choose the one per group that most adequately describes his/her mood or behavior during the last week. The assertations were given in growing order of seriousness, scoring from 0 (not present) to 4 (present in severe grade).

The five items that form the test measure the following areas: high or euphoric mood, increased self-confidence, decreased need of sleep, accelerated speech and psychomotor agitation.

The psychometric characteristics of the ASRM are very adequate.

Translation process

The scale was translated by a group of seven mental health professionals (psychiatrists and psychologists) who independently translated the scale, trying to interpret the original meaning of the items as accurately as possible. After individually performing the translation. They worked together, reaching a consensus on the translation. The translation was then reviewed by a team member who had not participated in the translation to achieve a correct expression, eliminating the foreign words. Subsequently, the back-translation was performed and then sent to the scale's author, who said that he was satisfied with the translation proposed, mentioning two aspects that were taken into account. The pertinent changes were made and with this, it was considered that translation was completed, and that there was now a final questionnaire in Spanish (appendix 1).

Appendix 1 | **Spanish version. Escala Autoaplicada de Manía de Altman (ASRM)**

Nombre: _____ Fecha: _____ Puntuación: _____

Instrucciones

1. En este cuestionario encontrará grupos de cinco frases; lea atentamente cada grupo
2. Señale cuál de las frases de cada grupo describe mejor cómo se ha sentido durante la última semana
3. Rodee con un círculo el número que está al lado de cada frase elegida
4. Por favor tome nota: la palabra «ocasionalmente» es utilizada aquí cuando ocurre una o dos veces; «a menudo» cuando ocurre varias veces o más; «frecuentemente» cuando ocurre la mayor parte del tiempo

1) 0. No me siento más alegre o animado de lo habitual
   1. Ocasionalmente me siento más alegre o animado de lo habitual
   2. A menudo me siento más alegre o animado de lo habitual
   3. Me siento más alegre o animado de lo habitual la mayor parte del tiempo
   4. Me siento más alegre o animado de lo habitual todo el tiempo

2) 0. No me siento más seguro de mí mismo de lo habitual
   1. Ocasionalmente me siento más seguro de mí mismo de lo habitual
   2. A menudo me siento más seguro de mí mismo de lo habitual
   3. La mayor parte del tiempo me siento más seguro de mí mismo de lo habitual
   4. Me siento extremadamente seguro de mí mismo todo el tiempo

3) 0. No necesito dormir menos de lo habitual
   1. Ocasionalmente necesito dormir menos de lo habitual
   2. A menudo necesito dormir menos de lo habitual
   3. Frecuentemente necesito dormir menos de lo habitual
   4. Puedo funcionar todo el día y toda la noche sin dormir ni sentirme cansado

4) 0. No estoy más hablador de lo habitual
   1. Estoy ocasionalmente más hablador de lo habitual
   2. A menudo estoy más hablador de lo habitual
   3. Frecuentemente estoy más hablador de lo habitual
   4. Hablo constantemente y no me pueden interrumpir

5) 0. No he estado más activo (ni socialmente, ni sexualmente, ni en el trabajo, ni en casa, ni en el colegio) de lo normal
   1. He estado ocasionalmente más activo de lo normal
   2. A menudo he estado más activo de lo normal
   3. Frecuentemente he estado más activo de lo normal
   4. He estado constantemente activo

Altman EG, Hedeker D, Peterson JL y Davis JM the Altman Self-Rating Mania Scale. Biol Psychiatry 1997. Adapted to Spanish by: Álvarez P, Benavent P, García JM, Livianos L y Rojo L.

Description of the remaining tests

Clinician Administered Rating Scale for Mania (CARS-M)

The Escala para la Valoración de la Manía Administrada por Clínicos (title in Spanish) is the adaptation of the Altman Clinician-Administered Rating Scale for Mania (CARS-M), made by Livianos et al.[11] in the Spanish setting.

The scale, which is administered by the clinician, evaluates the seriousness of the manic and psychotic symptoms. The psychometric properties of the test are quite satisfactory.

Numeric Evaluation Scale (NES)

It is a scale that may be used in a hetero- or self-rating way. In the present study, it has been used as a self-rating scale. The patient is asked to numerically evaluate his/her present mood state, within a scale of 0 («when he/she has been most depressed») to 100 («when his/her state has been highest»).

Application

The sample used is formed by a total of 74 patients, who gave their informed consent. There were 44 women and 30

men, whose ages ranged from 18 to 65 years. The tests were administered in two different settings, in patients hospitalized in the psychiatry ward of the University Hospital La Fe (n = 27) and in out-patients who came to the Lithium treatment out-patient clinic of the University Hospital La Fe (n = 27). The 74 individuals were diagnosed of bipolar disorder, and were in different phases of the disease. The distribution of the subjects at different times of the disease is the following:

- Nineteen subjects: manic episode without psychotic symptoms.
- Nine subjects: manic episode with psychotic symptoms.
- Four subjects: hypomanic episode.
- Three subjects: mixed episode.
- Thirty subjects: in remission.
- Seven subjects: mild or moderate depressive episode.
- Two subjects: serious depressive episode without psychotic symptoms.

As can be seen, almost all the possible states that a bipolar patient may present have been covered. The diagnoses have been established according to the ICD-10 criteria.

To make the study, two groups were established, those patients who had manic symptoms, that is, those who suffer a manic episode without psychotic symptoms, a manic episode with psychotic symptoms, a hypomanic episode or mixed episode (n = 35) and those who do not present it, as they are in remission or suffering a depressive episode (n = 39).

Concurrently with the application of the Altman Self-Rating Mania Scale, two other scales were applied, one self-rating, the Numeric Evaluation Scale and another hetero-rating one, CARS-M. The latter scale was applied under blind conditions regarding the results given by the subject in the two previous ones and after training in its administration.

Statistical methods

To calculate the correlations and analyze the differences of means between groups, the non-parametric tests have been used, since the distributions of the scores do not comply with the assumptions of normality.

All the statistical calculations have been performed with the SPSS 11.5 statistical program.

RESULTS

Internal consistency has been analyzed for the study of reliability. An alpha coefficient equal to 0.84 was obtained (standardized alpha equal to 0.83) and all the items highly correlated between themselves and with the total scale. If we consider the fact that as the alpha coefficient becomes closer to the unit, the items are more consistent between themselves and as a way of explanation, it has been pointed out that it is considered that the instrument is very consistent after Alpha values of 0.75-0.8012, we can state that the Altman Self-Rating Mania Scale is made up of items that measure the same, presenting high internal consistency. We can make an even stronger statement, considering that, on the one hand, the internal consistency coefficient tends to decrease as the number of items on the scale[12] do so and, on the other hand, that the scale studied is very short, only being made up by 5 items.

The correlations among the three scales evaluated are highly significant ($p < 0.001$). The Altman Self-Rating Mania Scale has an 0.75 correlation with the Numeric Evaluation Scale and 0.77 with the CARS-M mania subscale. On the basis of these results, it can be stated that the adaptation to the Spanish scope of the ASRM has good concurrent validity. If we compare these results with those obtained by Altman in the validation of the original scale[7], we find a very similar correlation, 0.76, between the ASRM and the mania subscale of the Clinician-Administered Rating Scale for Mania, to that found in the present study between the same scales adapted to our setting (table 1).

Very significant differences of means ($p < 0.001$) have been found between the population formed by patients with manic symptoms and that formed by patients without active manic symptoms at the time when the questionnaire was applied. The mean for the first sample of subjects is 8.84 and for the second 1.87, which implies a clear difference not only in the statistical area but also in the clinical scope. This indicates that the Altman Self-Rating Mania Scale has good discrimination capacity between

Table 1 Correlation between scales

	Correlations		
	Total score in Altman	Mania subscale (CARS-M)	Numeric evaluation scale
Spearman's Rho			
Total score in Altman			
Correlation coefficient	1.000		
Sig. (bilateral)			
Mania subscale (CARS-M)			
Correlation coefficient	0.779	1.000	
Sig. (bilateral)	0.000		
Numeric evaluation scale			
Correlation coefficient	0.753	0.747	1.000
Sig. (bilateral)	0.000	0.000	

Table 2 Difference of means between symptomatic and asymptomatic patients in the Altman Self-Rating Mania Scale

Contrast statistics	
	Total score in Altman
Mann-Whitney U	102.500
Wilcoxon W	882.500
Z	−6.185
Asymptomatic sig. (bilateral)	0.000

subjects of both populations. When analyzing the difference of means item to item, it has been possible to verify that all of them also significantly differ ($p < 0.001$) between the two patient groups (tables 2 and 3).

A ROC curve such as that shown in red in the following figure has been obtained (fig. 1).

The ROC curve derived from the data obtained in the Altman Self-Rating Mania Scale score of the patients with manic symptoms versus those who do not present them comes quite close to the upper left corner of the figure, which indicates good global accuracy of the test[13]. On the other hand, an area under the ROC curve of 0.92 has been obtained with a standard error of 0.033 and a confidence interval of 95 % from 0.85 to 0.98. This indicates that the scale presented has a high, excellent accuracy when discriminating between bipolar patients with or without manic symptoms. In the second place, it can be said that a patient randomly taken from the manic patient sample has a 92 % probability of obtaining a greater score in the Altman Self-Rating Mania Scale than an individual randomly chosen

Table 3 Differences of means between symptomatic and asymptomatic patients in the items of the Alman Self-Rating Mania Scale

Contrast statistic					
	Altman item 1	Altman item 2	Altman item 3	Altman item 4	Altman item 5
Mann-Whitney U	188,500	231,000	241,000	273,000	294,000
Wilcoxon W	968,500	1.011,000	1.021,000	1.053,000	1.074,000
Z	−5,364	−4,894	−5,280	−4,564	−4,327
Asymtomatic sig. (bilateral)	0,000	0,000	0,000	0,000	0,000

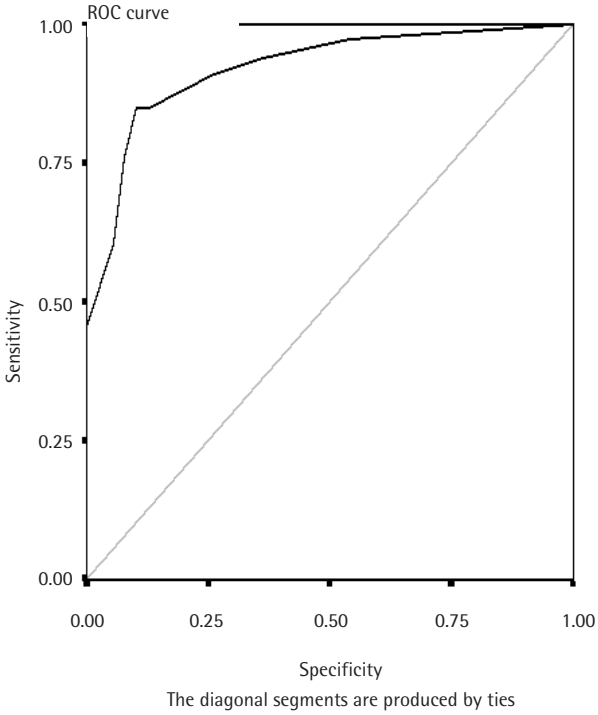

Figure 1 *ROC curve.*

from the group of patients who do not have manic symptoms. Along this line, the results obtained by Altman[7] were very similar, to not say identical, since an area under the ROC curve of 0.92 with a standard error of estimation of 0.032 was obtained.

One of the advantages of the ROC curve analysis is that it presents the different levels of specificity and sensitivity for all the spectrum of cut-offs, so that one cut-off or another will be chosen according to the purposes of the study that aims to use the Altman Self-Rating Mania Scale (table 4). In spite of wanting to make it clear that a specific cut-off must be chosen for each certain purpose, it is interesting to mention 5 as the most attractive cut-off, as it balances sensitivity and specificity, that is, it presents the maximum sensitivity for the maximum specificity possible that are, for this cut-off, 0.84 and 0.89, respectively. The cut-off postulated in this study is the same suggested by the author of the original scale in his investigation[7]. In this case, the sensitivity for this cut-off was 0.85 and specificity 0.87. This indicates to us once more that the adaptation to the Spanish scope that is being performed for the ASRM behaves similarly to the original.

The factorial analysis performed with the Main Components Analysis indicated the existence of a single factor, which accounts for 62 % of the total variance, reaffirming that postulated by the author of the original scale. In fact, the questionnaire made by Altman[7] had more items, which after being analyzed, formed three factors, one of mania, another

Table 4 Sensitivity and specificity in the different cut-offs

Positive if it is greater or equal to	Sensitivity	1-Specificity
–1.0000	1.000	1.000
0.5000	0.970	0.538
2.0000	0.939	0.359
3.5000	0.909	0.256
4.5000	0.848	0.128
5.5000	0.848	0.103
6.5000	0.758	0.077
7.5000	0.606	0.051
8.5000	0.455	0.000
9.5000	0.364	0.000
10.5000	0.333	0.000
11.5000	0.212	0.000
12.5000	0.182	0.000
14.0000	0.152	0.000
15.5000	0.091	0.000
17.5000	0.030	0.000
20.0000	0.000	0.000

Variables from contrast: total score in Altman.

of psychosis and the last of irritability, and, only the 5 items that formed the first factor were left for the composition of the final scale. The three factors found by Altman accounted for 53 % of the total variance, while the factor found in the present study accounted for 61.53 % of the total variance, that it is capable of explaining the variability of the scores more than the three factors found by Altman together. This could be due to the fact that the questionnaire on which Altman applied the factorial analysis was made up of 13 items, and the scale applied in this present study was then obtained from it. Thus, the factorial analysis was not performed on the same instrument. On the other hand, the differences existing between the samples used in both studies must also be considered. While Altman used a heterogeneous sample in relationship with the main diagnosis of the participants, bipolar disorder, schizophrenic, etc., this present study used a more homogeneous sample only made up by patients diagnosed of bipolar disorder in its different episodes (table 5).

Finally, a significant ($p < 0.001$) and positive (Rho = 0.61) correlation has been found between disease awareness, measured through item 15 of the CARS-M and the total score of the Altman Self-Rating Mania Scale. To interpret this correlation, it must be stated that the lower scores in item 15 indicate disease awareness and the higher ones, its absence. Taking this into account, we see that the correlation found indicates that when there is lower disease awareness, there are higher scores on the Altman Self-Rating Mania Scale.

Table 5 Total variance explained

Component	Initial self-values			Extraction sums of squared loadings		
	Total	% de la variance	% acumulated	Total	% de la variance	% acumulated
1	3.077	61.530	61.530	3.077	61.530	61.530
2	0.816	16.323	77.853			
3	0.497	9.949	87.803			
4	0.356	7.127	94.929			
5	0.254	5.071	100.000			

Extration method: principal component analysis.

This indicates that the patients without disease awareness evaluate their symptoms more seriously. This finding totally clashes with that postulated by some authors[3] who point out that manic patients without disease awareness were not good reporters of their symptoms, as they were not aware of them and reaffirms the contrary idea, that has alrea-dy been established by other authors since several years ago[4,5,7,10,14,15]. In fact, according to the results of this study, it seems that those patients without disease awareness, who in the present study's sample are the most serious patients, the majority of those who score high in lack of disease awareness being the patients admitted to the acute ward of the University Hospital La Fe, versus those who are seen as outpatients, they are also those who report, as corresponds to the most seriously affected patients, a greater severity of their symptoms. From all this, we can conclude that disease awareness does not influence the patient's capacity to evaluate his/her manic symptoms.

CONCLUSIONS

The primary objective of this study consisted in supplying something lacking up to now to the area of the evaluation of mania in Spain, that is, an evaluation instrument of this disease in which the subject him/herself would report on his/her symptoms. To do so, the ASRM was chosen, due to its high reliability and validity in the original version and due to its limited length. Then it was translated and adapted to the Spanish environment, without introducing any change into the initial instrument.

The results obtained indicate that the Altman Self-Rating Mania Scale is a good instrument to measure the presence and seriousness of mania. It has been demonstrated that it is a reliable and valid scale, that obtains a high index of internal consistency and high and significant correlations with the mania scales that were con-

currently administered. As had been postulated, a single construct has been found. On the other hand, it must be stated that it well serves its purpose of discriminating between patients with mania and without it, finding differences of means in all the items and in the total score, between these two groups. As is obvious, the score is always greater in the group of subjects who presented active manic symptoms. It has also been demonstrated to have excellent accuracy when discriminating between the two groups, as it obtains an area under the ROC curve of 0.92, and it is adequate and useful both for patients with disease awareness as well as for those who have little or null awareness.

As the scale proposed is the adaptation of another instrument, and as both have almost identical psychometric characteristics, both the advantages as well as disadvantages of the original are reproduced in the new scale created. Along this line, it must be stated, as was done already by the ASRM author[7], that it is a scale that cannot be administered to illiterate subjects. On the other hand, it does not measure psychotic symptoms of mania, since the author discarded the items that evaluated this aspect as they did not differentiate between manic and non-manic subjects. It must be considered that there were schizoaffective and schizophrenic patients within the non-manic subjects in the sample used, it being logical, therefore, that these items did not differ from one group to another. Then, it is possible that if a sample such as that of the present investigation had been used, these items would have established differences. It would be interesting to carry out a study to verify it, since if this were true, they could be re-included in the scale, obtaining a scale that almost would make it possible to evaluate psychotic symptoms, that is, whenever the utility of the instrument was to be applied to subjects with bipolar disorder.

Another disadvantage of the present questionnaire is its lack of capacity to measure depression, thus it is not capable of completely evaluating the mixed episodes of the disease. This difficulty has a simple solution, that consists in the use of a self-rating scale of depression (such as the Beck Depression Inventory[16,17] or the Zung Self-Rating Depression Scale[18,19], among others) concurrently with the Altman Self-Rating Mania Scale, thus making it possible to evaluate the depressive traits of the mixed phases.

The utilities that we could name for this scale are very similar to those suggested by Altman[7] for the original scale. In the first place, its priority objective must be stated, that of measuring the presence and seriousness of mania, it having more advantages in clinical areas where the time as well as staff may be scare and are limited. This capacity makes it possible for it to be useful as a screening method, facilitating the diagnosis or helping to identify the need for drugs or treatment adjustment. It may also be useful for research objectives. On the other hand, it may be very valuable as a psychoeducative tool, to help the patients recognize and supervise their own symptoms and/or to serve as a subjective measurement of improvement or deterioration for the patient. Along this line, and considering the results obtained in relationship with the disease awareness, it must be stated that it may also be a good instrument to create and reinforce disease awareness in the patient, since the patient is capable of reporting his/her symptoms and seriousness in spite of not having disease awareness. Based on the information that he/she gives on the scale, disease awareness will be approached. The therapeutic approach of the disease awareness of mania is very important. Within the bipolar disorder, the subjects who suffer a manic episode are those having worse disease awareness. It has also been demonstrated that there is a large relationship between lack of disease awareness and worse prognosis[20], worse social functioning level[21] and greater deterioration in patients with bipolar I disorder[22].

It is important to remember that the Altman Self-Rating Mania Scale should not be used alone to perform a clinical diagnosis.

Finally, it can be concluded that the adaptation to the Spanish environment of the ASRM is a reliable and valid self-rating scale to measure the presence and seriousness of mania, both in patients with disease awareness as well as in those who lack it. It can be used with many different objectives, among which psychoeducation, approach to disease awareness, investigation, use as a screening instrument, etc. can be stressed. Furthermore, it is very short, which is an added advantage. In this way, it begins to cover the existing gap in Spain in regards to the evaluation of mania performed by the patient. It is hoped that future studies will continue along this line and that more self-rating scales of mania will be adapted to be able to compare them to each other and to have a wider range of choice, according to need.

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