

## **Which is the best mania rating scale? A comparative study of psychometric properties of Young, CARS-M and Bech-Rafaelsen Scales**

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**Introduction:** Clinical and pharmacological studies with manic patients requires the availability of a good rating scale to assess both quantitative and qualitative changes in mood, cognitive and behaviour aspects of this syndrome.

**Objectives:** The authors have compared either psychometric as qualitative aspects of the three most used mania rating scales: Young (YMRS), Altman Rating Scale Clinician Version (CARS-M) and Bech-Rafaelsen (BR).

**Methods:** Fifteen bipolar type I inpatients in manic episode were videotaped and rated by three independent psychiatrists resulting in 45 observations. The sample was heterogenous regarding sex, age and clinical aspects. A control group had 15 manic euthymic patients.

**Results:** A high intraclass correlation coefficient was observed: YMRS = 0.86 (0.71–0.94), CARS-M = 0.86 (0.71–0.94) and BR = 0.84 (0.68–0.94) ( $p < 0.001$ ). A principal component analyses and Cronbach  $\alpha$  coefficient were performed to assess validity. It was built in a matrix with a total variance explained for YMRS, CAR-M and BR of 61.03%, 72.63% and 71.83% of eigenvalues in Kaiser method  $> 1$  resulting in three, five and four factors, respectively. The Cronbach  $\alpha$  coefficient was 0.66, 0.80 and 0.79. As expected the discriminant validity showed a statistical difference in rating manic symptoms ( $p < 0.001$ ).

**Discussion:** Although these results have showed that all the three scales have very similar psychometric properties, the qualitative analyses regarding clinical evidence has showed that each one is more specific to some manic presentations. It is noteworthy that psychotic symptoms (exception for grandiose delirious) are not well rated in these scales, specifically paranoid symptoms. These three mania rating scales are reliable instruments for euphoric and non-psychotic mania but not for other presentations.

**Conclusions:** Our study suggest that these scales are more able to rate 'classical (euphoric non-psychotic)' type I bipolar patients.

**Keywords:** bipolar disorders, mania rating scales, psychometric properties.