Psychiatr. Pol. 2016; 50(6): 1085–1092
PL ISSN 0033-2674 (PRINT), ISSN 2391-5854 (ONLINE)
www.psychiatriapolska.pl
DOI: https://doi.org/10.12740/PP/66358

The 33-item Hypomania Checklist (HCL-33) – a study of the consistency between self – and external assessments in Polish bipolar patients

Dorota Łojko[1], Dominika Dudek[2], Jules Angst[3], Marcin Siwek[2], Michal Michalak[4], Janusz K. Rybakowski[1]

[1]Department of Adult Psychiatry, Poznan University of Medical Sciences, Poznan, Poland
[2]Department of Affective Disorders, Chair of Psychiatry, Jagiellonian University Medical College, Krakow, Poland
[3]Psychiatric Hospital, University of Zurich, Zurich, Switzerland
[4]Department of Computer Science and Statistics, Poznan University of Medical Sciences, Poznan, Poland

Summary

Introduction. The Hypomania Checklist (HCL) has become an important tool for the assessment of hypomanic symptoms in patients with mood disorders and in the general population. The HCL-33 scale, containing 33 symptom items, is a new instrument which, in addition to the self-administered questionnaire, has a version for external rating.

Aim. The aim of this study is to evaluate the consistency between the self – and external assessments using the HCL-33 in Polish patients with bipolar disorder.

Method. The data from 81 euthymic bipolar patients recruited in Poznan and Krakow centers were analyzed. All the patients filled out the HCL-33 questionnaire, and, for each patient, the HCL-33 questionnaire-external assessment was completed by his/her significant other.

Results. Of the 33 symptom items, sufficient agreement (significance of kappa factor < 0.05) was found for 13 out of the 19 questions of the "active/elated" (factor 1) and for all 14 items of the "irritable/risk-taking" (factor 2). Insignificant consistency was found for 6 items of factor 1 and the question regarding the longest period of hypomania. The inter-rater agreement between patient and significant other was not affected by gender, living together or subtype of relationship with the patient.

Conclusions. The results show significant consistency between self – and external assessments for 27 symptom items (82%) of the HCL-33. The future status of the items showing insufficient consistency should be discussed. Limitation of the study is a small number of

The study was not sponsored.

subjects recruited from only two centers which may not be representative for the Polish population.

Key words: HCL-33, bipolar disorder, self-assessment, external assessment

Introduction

The Hypomania Checklist (HCL) has become a leading tool for the assessment of hypomanic symptoms in patients with mood disorders and in the general population. The HCL-32, with 32 items, introduced by Angst et al. [1], has been translated into 20 languages and used extensively in research. Most studies, whether of clinical or nonclinical samples, have distinguished two main hypomania factors of the HCL-32, namely an "active/elated" (factor 1) and an "irritable/risk-taking" (factor 2) [2, 3].

In a study of 1,051 Polish patients with single or recurrent depressive episode we performed the factor analysis of the Polish version of the HCL-32 and assessed its utility in discriminating between patients with treatment-resistant and treatment non-resistant depression. In the factor analysis, in addition to the "active/elated" and "irritable/risk-taking" factors, a third factor associated with sexuality was also identified in this group. The mean score of the HCL-32 was significantly higher and the percentage of patients responding positively to 14 or more items of the scale significantly greater in treatment-resistant than in non-resistant depression. Our research therefore confirmed the association between bipolarity and a worse response to antidepressant drugs in patients with mood disorders [4].

In 2010, a modified version of the scale (HCL-32-R1) containing 31 items was used in a transcultural study of 2,606 patients from twelve countries in five geographical regions. The results showed remarkable transcultural similarities regarding answers to questionnaire items [5]. A subsequent transcultural study investigated the validity of the HCL-32-R2, a version comprising 34 items [6]. Thereafter, two sexual items of the HCL-32-R2 were merged, and the number of items was reduced to 33, providing the basis for the HCL-33 scale. Alongside with the HCL-33 for self-administration, a new instrument designed for external assessment was developed.

The first two parts of the HCL-33 contain general questions of well-being in general and on the day of the research. The symptom list of 33 items is contained in section 3 of the questionnaire. 19 items belong to factor 1 – "active/elated" (items 1–6, 10–19, 21, 23 and 27) and 14 (items 7–9, 20, 22, 24–26, 28–33) to factor 2 – "irritable/risk-taking". In addition, the HCL-33 includes the questions to sections 4–10, such as: 4) Impact of "highs" on various aspects of life (family, social, work, leisure); 5) Others' reactions to or comments on "highs"; 6) Duration of "highs" – longest ever, on the average; 7) Presence of "highs" in the past twelve months; 8) Duration of "highs" in the past twelve months; 9) Question whether the person is by nature up and down; 10) Question whether the person's emotions shift fairly suddenly at times.

Both self – and external assessment versions of the HCL-33 are now available in German, English, French, Italian, Portuguese, Arabic, Chinese, Russian and Polish. Recently, a first paper on the self-assessment instrument applied to 350 Chinese patients suffering from major depressive episodes was published [7]. Its results suggest that the HCL-33 can be a useful screening tool for bipolarity.

The Polish versions of the HCL-33 for self – and external assessment have been elaborated in the Department of Adult Psychiatry, Poznan University of Medical Sciences After translation into Polish and then back translation into English, the Polish version of the HCL-33 was accepted by the scale's main author, Prof. Jules Angst. Our study is the first to analyze the consistency between self – and external assessment versions of the HCL-33 in patients with bipolar disorder.

Material and method

Patients were recruited from the Department of Adult Psychiatry, Poznan University of Medical Sciences and Department of Affective Disorders, Jagiellonian University Medical College, Krakow. A diagnosis of bipolar disorder according to the International Classification of Diseases (ICD-10) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria was made for each patient by at least two psychiatrists, using the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID) [8]. All patients were requested to fill out the HCL-33 questionnaire. For each patient his/her significant other was also asked to complete the HCL-33 questionnaire-external. The questionnaires of 81 out of the 98 patients entering the study (82%) were suitable for analysis. The data of 17 patients were not analyzed because the questionnaires were not returned or were incorrectly completed or because the HCL-33-external questionnaire was missing.

Finally, the analyzed group consisted of 81 patients (40 females, 41 males). Their mean age was 4±13 (18–73) years. There were 37 patients with bipolar I and 44 with bipolar II disorder. The mean duration of the illness was 13±8 years. Exclusion criteria covered any other psychiatric comorbidity or serious medical condition.

The patients' self-assessment took place during a remission period of at least 4 weeks' duration. The criteria for remission were 7 or fewer points on the 17-item Hamilton Depression Rating Scale and/or on the Young Mania Rating Scale. At the time of assessment all the patients were receiving mood-stabilizing drugs of first (lithium, valproates, carbamazepine) or/and second generation (olanzapine, quetiapine, aripiprazole, lamotrigine) [9, 10].

The external assessment was performed by each patient's significant other. 53 (65%) of these persons were living together with the patient and 31 (38%) were of the same sex. Their relationship to the patient (subtype of relationship) was as follows: spouse/partner (31 subjects), parent (24 subjects), sibling (12 subjects), friend (2 subjects), teacher (1 subject), other (11 subjects).

The study was approved by the Bioethics Committee of Poznan University of Medical Sciences. Written informed consent was obtained from each individual after the procedure had been explained in detail.

Statistical calculations were performed by STATA 14 software (StataCorp LP). Data of patients' characteristics were presented as means and standard deviations. Nominal data were presented as percentages. The agreement between patients and significant others was presented as percentages. Additionally the inter-rater agreement for qualitative items was measured by Cohen's kappa coefficient. Statistical significance was determined at $p < 0.05$.

Results

The kappa coefficients for the consistency of the 33 items of the scale are presented in Table 1.

Table 1. **Consistency between self – and external assessments of individual items of the part 3 (p3) of the HCL-33 questionnaire**

HCL-33 questions		agreement	Cohen's kappa coefficient	P
	Factor 1 (19 items)			
HCL_p3_1	I need less sleep.	78.57%	0.485	< 0.001
HCL_p3_2	I feel more energetic and more active.	98.61%	0.850	< 0.001
HCL_p3_3	I am more self-confident.	72.97%	-0.128	0.892
HCL_p3_4	I enjoy my work more.	87.50%	0.621	< 0.001
HCL_p3_5	I am more sociable (make more phone calls, go out more).	89.86%	0.682	< 0.001
HCL_p3_6	I want to travel and/or do travel more.	78.79%	0.534	< 0.001
HCL_p3_10	I am physically more active (sport etc.).	68.66%	0.362	< 0.001
HCL_p3_11	I plan more activities or projects.	94.29%	0.799	< 0.001
HCL_p3_12	I have more ideas, I am more creative.	84.06%	0.336	0.002
HCL_p3_13	I am less shy or inhibited.	64.38%	0.004	0.486
HCL_p3_14	I wear more colorful and more extravagant clothes/make-up.	64.38%	0.296	0.005
HCL_p3_15	I want to meet or actually do meet more people.	87.84%	0.619	< 0.001
HCL_p3_16	I am more interested in sex and/or I am more sexually active.	75.00%	0.505	< 0.001
HCL_p3_17	I talk more.	93.59%	0.745	< 0.001

table continued on the next page

HCL_p3_18	I think faster.	91.04%	0.648	< 0.001
HCL_p3_19	I make more jokes or puns when I am talking.	68.49%	0.137	0.118
HCL_p3_21	I engage in lots of new things.	64.86%	0.082	0.236
HCL_p3_23	I do things more quickly and/or more easily.	72.73%	0.157	0.084
HCL_p3_27	My mood is higher, more optimistic.	80.28%	0.044	0.328
	Factor 2 (14 items)			
HCL_p3_7	I tend to drive faster or take more risks when driving.	81.13%	0.600	< 0.001
HCL_p3_8	I spend more money/too much money.	74.29%	0.327	0.003
HCL_p3_9	I take more risks in my daily life (in my work and/or other activities).	72.06%	0.369	0.001
HCL_p3_20	I am more easily distracted.	65.57%	0.205	0.044
HCL_p3_22	My thoughts jump from topic to topic.	77.78%	0.450	< 0.001
HCL_p3_24	I am more impatient and/or get irritable more easily.	75.00%	0.399	< 0.001
HCL_p3_25	I can be exhausting or irritating for others.	64.86%	0.234	0.020
HCL_p3_26	I get into more quarrels.	70.67%	0,414	< 0.001
HCL_p3_28	I drink more coffee.	81.43%	0.606	< 0.001
HCL_p3_29	I smoke more cigarettes.	86.49%	0.703	< 0.001
HCL_p3_30	I drink more alcohol.	75.71%	0.300	0.005
HCL_p3_31	I take more drugs (sedatives, anxiolytics, stimulants…).	79.37%	0.265	0.014
HCL_p3_32	I game or gamble more.	95.45%	0.547	< 0.001
HCL_p3_33	I eat more or I binge more.	72.46%	0.279	0.012

As seen in Table 1, 13 out of 19 items of factor 1 showed significant agreement (significance of kappa coefficient of < 0.05) and 6 did not reach a significant consistency (significance of kappa coefficient of > 0.05): Item 3 (I am more self-confident); Item 13 (I am less shy or inhibited); Item 19 (I make more jokes and puns when I am talking); Item 21 (I engage in lots of new things); Item 23 (I do things more quickly and more easily); Item 27 (My mood is higher, more optimistic). The answers to items 23 and 27 were more frequently positive in patients than in the external assessments. 33 patients (41%) answered positively to all these items. Furthermore, all 14 questions of factor 2 reached sufficient consistency. The kappa coefficients for the additional questions 4–10 showed significant consistency, except for that regarding the longest period of hypomania.

The mean Cohen's kappa coefficient for the consistency of assessment for all 33 symptom questions in 81 pairs was 0.372±0.293, for the items of the "active/elated" factor 0.382±0.318, and 0.354±0.240 for the items of factor 2, i.e., "irritable/risk taking". Table 2 presents the mean kappa coefficient, according to the various relationships between significant others and patients.

Table 2. **Cohen's kappa coefficient for consistency between self – and external assessment in relation to the varying status of significant other**

Status of significant other	Cohen's kappa coefficient Mean ± SD
Same sex as patient (n = 31)	0.361 ± 0.239
Different sex from patient (n = 50)	0.372 ± 0.323
Living together (n = 65)	0.386 ± 0.279
Living apart but maintaining close contact (n = 16)	0.407 ± 0.255
Parent (n = 24)	0.264 ± 0.306
Sibling (n = 12)	0.428 ± 0.332
Spouse (partner) (n = 31)	0.387 ± 0.307

There were no significant differences in the mean Cohen's kappa coefficient between pairs, irrespective of the external assessor's relationship to the patient (living or not living together, being a parent, sibling or spouse) and regardless of whether or not they were of the same sex as the patient. A slightly lower numerical value of this mean coefficient was observed for parental assessment of the patient.

Discussion

This is the first study to investigate the consistency between self – and external assessments by the HCL-33. 27 out of 33 symptom items showed sufficient agreement. Insufficient agreement (significance of kappa coefficient > 0.05) was found for 6 out of the 19 items of factor 1. All 6 items concern the subjective assessment of mood and activity. Significant agreement was found for all of the 14 items of factor 2. It was also indicated that the inter-rater agreement between patient and significant other was not affected by gender, living together or subtype of relationship with the patient.

The 6 HCL-33 items with insufficient consistency can be considered from different angles. For the patient they play an important role, since 40% of patients responded positively to all 6 items. If the cut-off point for a "positive" result on the scale is set at 14, those 6 items account for 40% of those patients' final scores. As regards external evaluation, however, it needs to be considered whether the items should be modified or deleted. This also applies to question 6 on the longest

period of hypomania, which did not reach significant consistency. Any decision to modify the checklist, however, should await the outcome of further studies on the consistency between self – and external assessment versions carried out in other populations and other languages.

The main limitation of this study is its relatively small number of subjects, recruited from only two centers which may not be representative for the Polish population as a whole. However, bearing these limitations in mind, we can conclude that the results of this study show a significant consistency between self – and external assessment for 27 symptom items (82%) of the HCL-33 as well as lack of effect of subtype of relationship of significant other on the inter-rater agreement between patient's and external assessment.

This may confirm the usefulness of the HCL-33 when used in the version for patients and significant others in clinical practice for assessing symptoms of hypomania.

References

1. Angst J, Adolfsson R, Benazzi F, Gamma A, Hantouche E, Meyer TD. et al. *The HCL-32: towards a self-assessment tool for hypomanic symptoms in outpatients*. J. Affect. Disord. 2005; 88: 217–233.
2. Meyer TD, Hammelstein P, Nilsson LG, Skeppar P, Adolfsson R, Angst J. *The Hypomania Checklist (HCL-32): its factorial structure and association to indices of impairment in German and Swedish nonclinical samples*. Compr. Psychiatry 2007; 48: 79–87.
3. Łojko D, Rybakowski J, Dudek D, Pawłowski T, Siwek M, Kiejna A. *Hypomania Check List (HCL-32) – kwestionariusz objawów hipomanii: charakterystyka i zastosowanie*. Psychiatr. Pol. 2010; 44(1): 39–46.
4. Rybakowski JK, Angst J, Dudek D, Pawlowski T, Lojko D, Siwek M. et al. *Polish version of the Hypomania Checklist (HCL-32) scale: the results in treatment-resistant depression.* Eur. Arch. Psychiatry Clin. Neurosci. 2010; 260: 139–144.
5. Angst J, Meyer TD, Adolfsson R, Skeppar P, Carta M, Benazzi F. et al. *Hypomania: a transcultural perspective.* World Psychiatry 2010; 9: 41–49.
6. Gamma A, Angst J, Azorin JM, Bowden CL, Perugi G, Vieta E. et al. *Transcultural validity of the Hypomania Checklist-32 (HCL-32) in patients with major depressive episodes*. Bipolar Disord. 2013; 15: 701–712.
7. Feng Y, Xiang YT, Huang W, Wang G, Feng L, Tian TF. et al. *The 33-item Hypomania Checklist (HCL-33): A new self-completed screening instrument for bipolar disorder.* J. Affect. Disord. 2016; 190: 214–220.
8. First MB, Spitzer RL, Gibbon M, Williams J. *Structured Clinical Interview for DSM-IV Axis I Disorders, Clinician Version (SCID-CV)*. Washington, DC: American Psychiatric Press Inc.; 1996.

9. Rybakowski JK. *Two generations of mood stabilizers*. Int. J. Neuropsychopharmacol. 2007; 10: 709–711.

10. Rybakowski JK. *Aripiprazole joins the family of second-generation mood stabilizers.* J. Clin. Psychiatry 2008; 69: 862–863.

Address: Dorota Łojko
Department of Adult Psychiatry
Poznan University of Medical Sciences
60-572 Poznań, Szpitalna Street 27/33