

Validation and analysis of the Patient's Health Belief Questionnaire on Psychiatric Treatment in a sample of Hungarian psychiatric patients

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Objectives: Patients' attitude towards treatment is one of the most significant factors which has determining effect on sufficient adherence. Data are lacking on Hungarian patients' attitude towards psychiatric treatment, however, high prevalence of suicide suggests that effectiveness of psychiatric treatments need to be improved. To pave the way for such studies, we performed the validation of the recently developed Patients' Health Belief Questionnaire on Psychiatric Treatment (PHBQPT) in a sample of Hungarian psychiatric patients. **Methods:** We enrolled 188 Hungarian patients diagnosed with psychiatric disorders. The PHBQPT was translated into Hungarian by our group. Comparison of item and subscale mean scores with the original data are presented. Internal consistency, item-total and item-item correlations were calculated and factorial structure was analysed. **Results:** Single item means, the highest item score and subscale mean scores were similar to data published in the original article. The factorial analysis confirmed the validity of a five-subscale structure in our sample. The effects of gender and age were not significant on any of the subscales. **Conclusions:** The PHBQPT is a valid, reliable instrument with replicable psychometric properties. The Hungarian version is suitable for clinical practice and for further investigations on attitudes towards psychiatric treatment.

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Keywords: drug attitude; adherence; health belief; medication treatment; psychiatric treatment

INTRODUCTION

According to WHO data, in the developed countries the therapeutic adherence of chronic patients requiring long-term treatment is about 50% (WHO, 2003). The therapeutic difficulties related to adherence among psychiatric patients are well-known. However, it needs to be emphasized that the occurrence of adherence problems is almost as frequent in the case of cardiological, pulmonological, diabetological illnesses as in the psychiatric population (Cramer & Rosenheck, 1998). Adherence is a result of several factors: there can

be distinguished dimensions related to the patient, to the condition requiring treatment, to the therapy, to the health care system, to the social and economic factors. Although the adherence related difficulties occur in all age groups, studies have shown that the therapeutic outcome is even more negatively influenced by it in the case of elderly patients, where the concurrent chronic conditions requiring treatment while the altered pharmacokinetics and pharmacodynamics usually have a negative impact on the outcome as well. In this population the higher occurrence of neurocognitive disorders, the more complex drug regimens, the more

Table 1. Mean scores of items in the study population and comparison with values published by de Las Cuevas & de Leon, 2019)

PHBQPT items	Mean±S.D.	De las Cuevas (2019)
(1) I am directly responsible for my condition getting better or worse	4.7±1.3	4.7±1.7
(2) If I see my doctor regularly, I am less likely to have problems with my condition	4.5±1.4	4.6±1.7
(3) When someone forces me to do something, I feel like doing the opposite.	3.0±1.5	2.7±1.8
(4) For me, the good things about medication outweigh the bad.	4.3±1.4	4.6±1.7
(5) I feel strange, "doped up", on medication.	3.5±1.4	3.1±2.0
(6) The main thing which affects my condition is what I myself do.	4.4±1.3	4.2±1.8
(7) Following doctor's orders to the letter is the best way to keep my condition from getting any worse.	5.1±1.0	4.9±1.5
(8) I resist the attempts of others to influence me.	4.3±1.4	3.3±1.9
(9) Medications make me feel more relaxed	4.3±1.3	4.9±1.7
(10) Medication makes me feel tired and sluggish	3.7±1.5	3.7±2.0
(11) I feel more normal on medication	4.1±1.4	4.3±1.8
(12) If my condition takes a turn for the worse, it is because I have not been taking proper care of myself	3.9±1.5	4.2±1.9
(13) Whenever my condition worsens, I should consult a medically trained professional	5.5±0.9	5.5±1.2
(14) It is unnatural for my mind and body to be controlled by medications	3.5±1.6	2.9±1.9
(15) My thoughts are clearer on medication	3.6±1.6	4.0±1.9
(16) Taking medication will prevent me from having a breakdown	4.1±1.3	4.1±1.9
(17) I become angry when my freedom of choice is restricted	4.1±1.4	4.2±1.8
Subscales		
Positive Aspects of Medications	20.3±5.6	18.1±4.8
Negative Aspects of Medications	10.6±3.7	9.7±4.2
Doctor-HLOC	15.1±2.7	15.1±3.4
Internal-HLOC	12.9±3.2	12.9±4.2
Psychological Reactance	11.3±2.8	10.2±3.8

frequent adverse effects caused by interactions may influence the treatment adherence in a negative manner (Vermeire et al., 2001). Adherence and as a result, the therapeutic effectiveness is largely influenced by the attitude towards treatment of the patients requiring long-term treatment. The attitude towards drug treatment is one of the most important predictors of the later adherence (Gaebel et al., 2010; Jonsdottir et al., 2013). The two endpoints of the attitude towards drug treatment can be defined as pharmacophobia and pharmacophilia. Besides the attitude towards treatment, the adherence is influenced also by a factor called psychological reactance, emerging as a result of the implementations of rules which endanger the freedom of personal choice, the degree of autonomy of the patient. Results of studies show that psychological reactance is higher in the case of more independent persons who generally rely on their own resources. People who are prone to lower psychological reactance are more likely to require assistance and to accept suggestions, advice from others (De Las Cuevas et al., 2014). Apart from the factors mentioned above, the perceived control (the faith in one's own potentials which are necessary to attain the desired goal, in this case, to improve one's health status) and the health locus

of control, the degree to which the person considers that his/her health status can be influenced by external factors, other people or himself/herself (Ajzen, 1991; Sheppard, 1988). Convincing data suggested that the patients who are confident in their abilities believed to be useful in the improvement of their health status (higher sense of self-efficacy) are more likely to have a positive attitude towards the drug treatment as well (De Las Cuevas & Penate, 2015).

Patients' Health Belief Questionnaire on Psychiatric Treatment (PHBQPT) is an instrument developed in 2019 by De Las Cuevas and colleagues which makes possible a thorough assessment of health locus of control, of attitude towards drug treatment and of the psychological reactance (De Las Cuevas & de Leon, 2019). The questionnaire can be completed by the patients in a short time and it can be used in the routine clinical care. Its repeated completion during the treatment makes possible the monitoring of treatment-emergent changes of these factors and identification of the objectives of interventions. Using the questionnaire, the physician can assess the patient's feelings, attitude towards drug treatment, the locus of health control, one's sense of responsibility for his/her own health status.

Table 2. Results of the item-total statistics on the PHBQPT

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
item 1	66.11	67.91	0.28	0.36	0.59
item 2	66.30	66.70	0.31	0.35	0.59
item 3	67.83	68.43	0.19	0.09	0.60
item 4	66.60	64.88	0.37	0.52	0.58
item 5	67.30	78.18	-0.19	0.50	0.66
item 6	66.43	66.36	0.38	0.38	0.58
item 7	65.70	67.08	0.44	0.42	0.58
item 8	66.54	67.88	0.24	0.14	0.60
item 9	66.54	63.23	0.51	0.47	0.57
item 10	67.09	75.51	-0.09	0.45	0.65
item 11	66.70	64.50	0.39	0.47	0.58
item 12	66.92	65.09	0.34	0.28	0.59
item 13	65.36	70.12	0.31	0.26	0.59
item 14	67.39	75.15	-0.08	0.29	0.65
item 15	67.19	63.48	0.38	0.46	0.58
item 16	66.77	64.59	0.43	0.39	0.57
item 17	66.72	72.92	0.018	0.11	0.63

Hungary has been traditionally among the countries with the highest suicide prevalence in Europe. Although there was a decreasing tendency from the 1980's, according to the report of Eurostat, the prevalence of suicide is still the 4th in Europe following Lithuania, Luxembourg and Belgium with 23 suicidal deaths/100000 habitants based on data released in 2017 (https://ec.europa.eu/eurostat/web/products-eurostat-news/product/-/asset_publisher/VWJkHuaYvLIN/content/EDN-20200910-1). The factors underlying the high prevalence of suicide need to be identified, in order that more efficient prevention programs can be implemented. The effective treatment of major depressive disorder is one of the most important suicide prevention strategies at population level. For this reason, the analysis of prescription of antidepressant compounds has proved to be useful to assess the changes occurred on this field in Hungary during the past three decades. The data analysis of antidepressant sales showed that there was a five-fold increase in the antidepressant consumption in Hungary between 1993 and 2004. The consumption of SSRI compounds has multiplied by 21 times in this period, while the use of tricyclic compounds decreased to the one third of the initial quantity. This tendency is similar to other European countries (Viola, et al., 2008). Considering that the number of prescriptions of antidepressants has proved to be satisfactory, the identification of other possible outcome influencing factors cannot be avoided. Insufficient treatment adherence and the patients' attitude towards drug treatment are two important factors which have not

been thoroughly investigated in Hungary so far. The data resulting from assessment of Hungarian patients' attitude towards psychiatric drug treatment can be useful in the development of more efficient suicide prevention programs. The translation and validation of a questionnaire which can be used in clinical practice for the evaluation of attitude towards treatment, health locus of control and psychological reactance was an important step in starting this research. In this study we performed the validation and analysis of the PHBQPT in a sample of Hungarian psychiatric patients.

METHODS

Subjects

We enrolled 188 patients (115 women and 73 men; mean age 32.8±10.7 years) from the A, B, C and D departments of general psychiatry of the Nyíró Gyula National Institute of Psychiatry and Addictions, Budapest, Hungary. Only patients who underwent voluntary psychiatric treatment were enrolled in the study. Inclusion criteria included clear consciousness and adequate level of neurocognitive functioning. Exclusion criteria included the presence of a neurocognitive disorder, mental retardation, involuntary psychiatric treatment. All subjects agreed to participate in the study after an informed consent process. The study was approved by the Hungarian Medical Research Council (ETT TUKEB).

Table 3. Principle component analysis of the PHBQT

Items	Components				
	1	2	3	4	5
item 1	-0.075	-0.050	0.41	-0.55	-0.021
item 2	-0.083	-0.05	-0.04	0.375	0.041
item 3	-0.046	-0.088	0.002	0.040	0.646
item 4	0.22	-0.03	-0.12	0.09	-0.04
item 5	0.078	0.42	-0.017	0.004	-0.063
item 6	-0.013	0.058	0.36	0.025	-0.081
item 7	-0.001	0.074	0.043	0.34	-0.097
item 8	-0.139	0.008	0.072	0.26	0.30
item 9	0.29	0.14	0.001	0.017	-0.038
item 10	0.093	0.48	-0.040	0.098	-0.074
item 11	0.28	0.014	-0.045	-0.050	-0.007
item 12	0.074	0.049	0.45	-0.23	0.022
item 13	0.009	0.11	-0.21	0.48	-0.05
item 14	-0.02	0.34	0.10	0.051	0.062
item 15	0.28	-0.025	0.029	-0.165	0.087
item 16	0.28	0.080	0.055	-0.075	-0.041
item 17	0.045	0.047	-0.072	-0.068	0.56

Table 4. Pearson's correlation test of subscales of the PHBQT

	NegAsp	DoctorHLOC	InternalHLOC	PsychReact
PosAsp	-0.32** (-0.19)	0.41** (0.38)	0.21** (0.20)	0.09 (-0.015)
NegAsp	-	-0.31** (-0.10)	-0.10 (-0.19)	0.07 (0.22)
DoctorHLOC	-	-	0.34** (0.22)	0.08 (-0.12)
InternalHLOC	-	-	-	0.11 (0.09)

**<p 0.01 Numbers in the brackets refer to the R values published by De las Cuevas et al 2019 (De Las Cuevas & de Leon, 2019)

Patient's Health Belief Questionnaire on Psychiatric Treatment

We used the Hungarian version of the Patients' Health Belief Questionnaire on Psychiatric Treatment (PHBQPT) comprising 17 items, which was developed and validated by De Las Cuevas and colleagues in 2019 (De Las Cuevas & de Leon, 2019). The items of the questionnaire were selected from three widely used scales.

1. Eight items were selected from the Drug Attitude Inventory (DAI-10) (Hogan & Awad, 1992). By using the DAI-10 the patients' attitude towards drug treatment (the potentially present pharmacophobia) can be assessed.

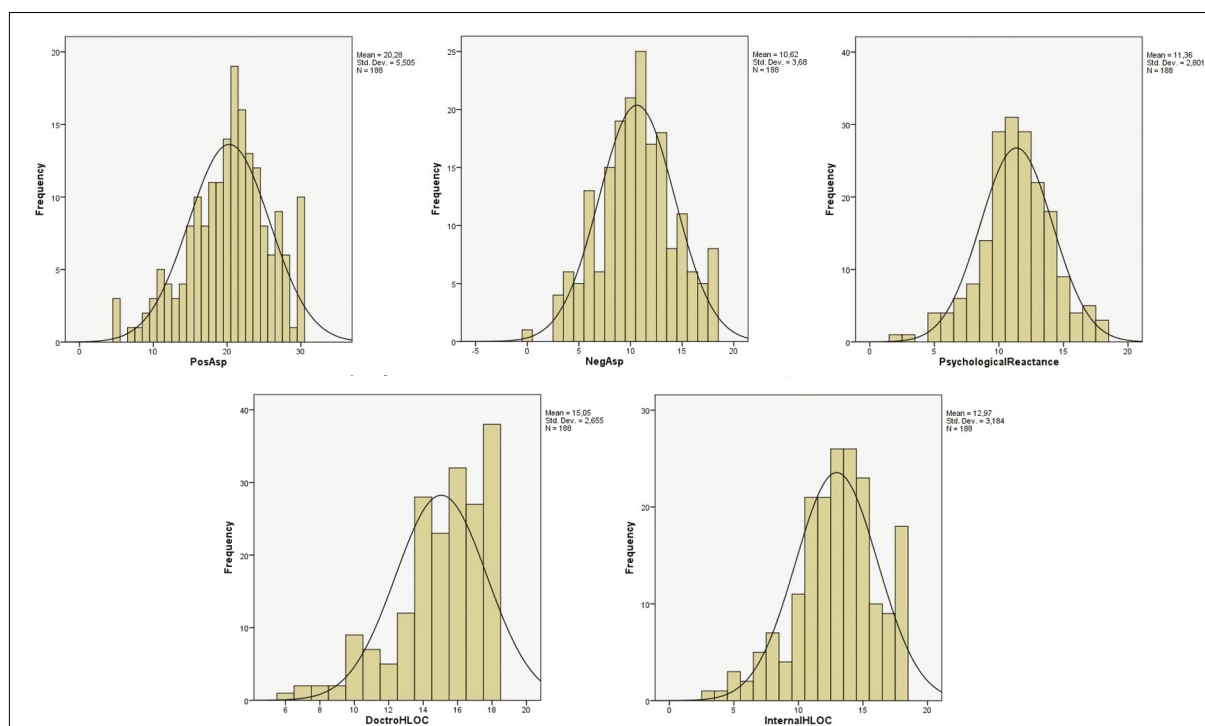
2. Six from the 18-item Multidimensional Health Locus of Control-Form C (Wallston et al., 1978). The health locus of control has been generally assessed with the Multidimensional health Locus of Control-form C (MHLC-C) scale developed by Wallston and colleagues. The initially introduced versions A and B of the MHLC provide a general assessment of the health locus of control, whereas version C of the tool

was developed to be used in the context of a specific health status, it can be adapted without difficulty to a great variety of conditions (Wallston et al., 1978). The scale provides information regarding the extent to which a person considers that his health status is related to his own behaviour or in contrast, is influenced by external factors, other people or even chance.

3. Three items from the 14-item Hong Psychological Reactance Scale (HPRS) (Hong & Faedda, 1996). As a result of the illness (or the treatment) the patient may feel that the level of his autonomy decreased. Psychological reactance, assessable by HPRS, is the emerging negative motivational arousal related to reduction of autonomy.

The 17 items of the PHBQPT scale are grouped in 5 subscales: Positive Aspects of Medications (PosAsp); Negative Aspects of Medications (NegAsp); control over health attributed to physician (Doctor HLOC), health attributed to one's own actions (Internal HLOC) and psychological reactance (PsycholReact).

The 17 item PHBQPT compiled from the DAI-10, MHLC Form C and HPRS scales (total number of

Figure 1. Distribution tests of subscale scores according to the Kolmogorov-Smirnov test

items of the three scales is 42) can be completed in 15 minutes in contrast with the 1.5 hours completion time of the initial questionnaires. For this reason, the clinical usability of the instrument has increased considerably. The original scale was translated to Hungarian by our group, the translation was back-translated to English by a colleague independent from the study. Then the two versions in English were compared by a native speaker colleague. According to the comparative analysis of the two versions in English, there are no significant differences between the two texts, the translation can be considered to be valid.

Statistics

The normality of distribution has been tested by the Kolmogorov-Smirnov test. Internal consistency and correlations of items has been evaluated by reliability statistics. We calculated scale mean if subscale deleted for structural analysis. Besides the Cronbach alpha of the total scale, the values of Cronbach alphas of the subscales are presented as well, regarding that sum of subscales are relevant for characterizing of patients. Factor analysis has been performed by use of principle component analysis (PCA) with Kaiser rotation method. The predictive importance was estimated

by a node analysis model where all measured factors (means of items and subscales, gender and age) were entered. The value of p has been accepted as significant if it was less than 0.05. For the statistical analyses we used the SPSS 24.0 software.

RESULTS

Analysis of the total scale

The means of single items and comparison of the originally published values are presented in the Table 1. Single item mean was 4.17 (minimum=3.01; maximum=5.48; variance=0.37) and mean of single item variance was 1.85 (minimum=0.75; maximum=2.48; variance=0.21). The internal consistency of the whole scale is acceptable (Cronbach's alpha=0.62). The Cronbach's alpha of scale if items deleted is not improved significantly (Table 2). Using principle component analysis yielded 5 factors corresponding to 5 subscales of the scale. While one factor model showed 26.4% of explained variance, in case of 5 factor model it is 60.8% (Table 3). Thus, the factorial analysis confirmed the validity of 5 subscale structure in our sample. The correlation matrix of the subscales resulted in similar values of the original description of the scale (Table 4). Effects

Table 5. Item-total statistics within the subscales of the PHBQPT scale

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
PosAsp subscale					
item 4	16.16	19.28	0.63	0.39	0.78
item 9	16.12	20.12	0.62	0.39	0.79
item 11	16.28	18.88	0.67	0.47	0.77
item 15	16.77	18.19	0.63	0.41	0.78
item 16	16.36	20.77	0.55	0.32	0.80
NegAsp subscale					
item 5	7.17	6.61	0.59	0.40	0.57
item 10	6.99	6.24	0.60	0.41	0.55
item 14	7.25	6.88	0.43	0.19	0.76
Doctor HLOC					
item 2	10.60	2.56	0.49	0.25	0.58
item 7	9.98	3.62	0.51	0.27	0.52
item 13	9.66	4.19	0.47	0.22	0.59
Internal HLOC					
item 1	8.27	5.30	0.53	0.29	0.55
item 6	8.57	5.51	0.51	0.27	0.58
item 12	9.09	4.84	0.46	0.22	0.65
PsycholReact					
item 3	8.43	4.05	0.19	0.036	0.04
item 8	7.14	4.69	0.10	0.018	0.24
item 17	7.33	4.70	0.11	0.019	0.24

of gender were not significant on neither subscales ($p > 0.05$ in all cases).

The results of the PCA yielded 5 components which are identical with the 5 subscales distinguished by De las Cuevas et al. 2019 in the original scale development. Component 1 is identical with the PosAsp subscale; Component 2 with NegAsp; Component 3 with Internal HLOC; Component 4 with Doctor HLOC and Component 5 with PsycholReact subscales (Table 4).

Analyses of the subscales

The distributions of the subscales' scores are deviated from normality based on the Kolmogorov-Smirnov test in all cases ($p < 0.05$ in all cases; Figure 1).

In the PosAsp subscale the mean of single items is 4.08 and the variance is 1.98. The internal consistency of the subscale is considerably strong (0.82) and the correlations of items within subscale also indicated tight relationships. The strongest relationship can be observed between item 15 and 11, while the weakest between 16 and 4. The correlation matrix between the subscale and the whole scale shows that highest values can be found with item 16 following internal HLOC, NegAsp, Doctor HLOC and PsyReactance (with significant p-values in all cases; Figure 2). The internal

consistency of the NegAsp subscale is 0.72, while the mean of single item is 3.57 and the variance is 2.25. The items showed strong correlation, the weakest relationship can be observed between item 14 and 10, while the strongest correlation between 10 and 5. The subscale show the strongest relationship with the PosAsp, then the Doctor HLOC and PsychReactance. However, the predictive value was significant only in case of the relationship with PosAsp subscale.

The Cronbach's alpha of the Doctor HLOC is 0.65. The mean of single items is 5.04 and the variance is 1.24. The correlations among items are weaker than the first two subscales, namely the R values are under 0.5. Analysing the connections between the Doctor HLOC subscales and the whole scale and other factors, we found that the most predictive components are Internal HLOC and the age.

In the case of the Internal HLOC subscale the Cronbach's alpha is 0.68. The mean of single item is 4.32 and the variance is 1.83. All three items showed correlations characterized with R values less than 0.5. The strongest relationships were found with Doctor HLOC and PsychReactance.

The internal consistency of the PsycholReact subscale is weak (Cronbach's alpha=0.25). The means of single item is 3.81 and the variance is 2.04. The correlations between items indicated weak

Table 6. Item correlations of the subscales of PHBQPT

PosAsp subscale					
	Item 4	Item 9	Item 11	item 15	item 16
item 4	1.00	0.43	0.45	0.47	0.37
item 9	0.43	1.00	0.45	0.41	0.44
item 11	0.45	0.45	1.00	0.51	0.38
item 15	0.47	0.41	0.51	1.00	0.37
item 16	0.37	0.44	0.38	0.37	1.00
NegAsp subscale					
	item 5	item 10	item 14		
item 5	1.00	0.62	0.39		
item 10	0.62	1.00	0.40		
item 14	0.39	0.40	1.00		
Doctor HLOC					
	item 2	item 7	item 13		
item 2	1.00	0.44	0.38		
item 7	0.44	1.00	0.41		
item 13	0.38	0.41	1.00		
Internal HLOC					
	item 1	item 6	item 12		
item 1	1.00	0.48	0.42		
item 6	0.48	1.00	0.38		
item 12	0.42	0.38	1.00		
PsycholReact					
	item 3	item 8	item 17		
item 3	1.00	0.13	0.14		
item 8	0.13	1.00	0.02		
item 17	0.14	0.02	1.00		

relationships and the R values of all three items were less than 0.2. Only the Internal HLOC subscale had predictive effect on this scale.

Correlations between items and total scale are presented in the Table 5 and 6. The results of predicted importance analyses are displayed by Figure 2.

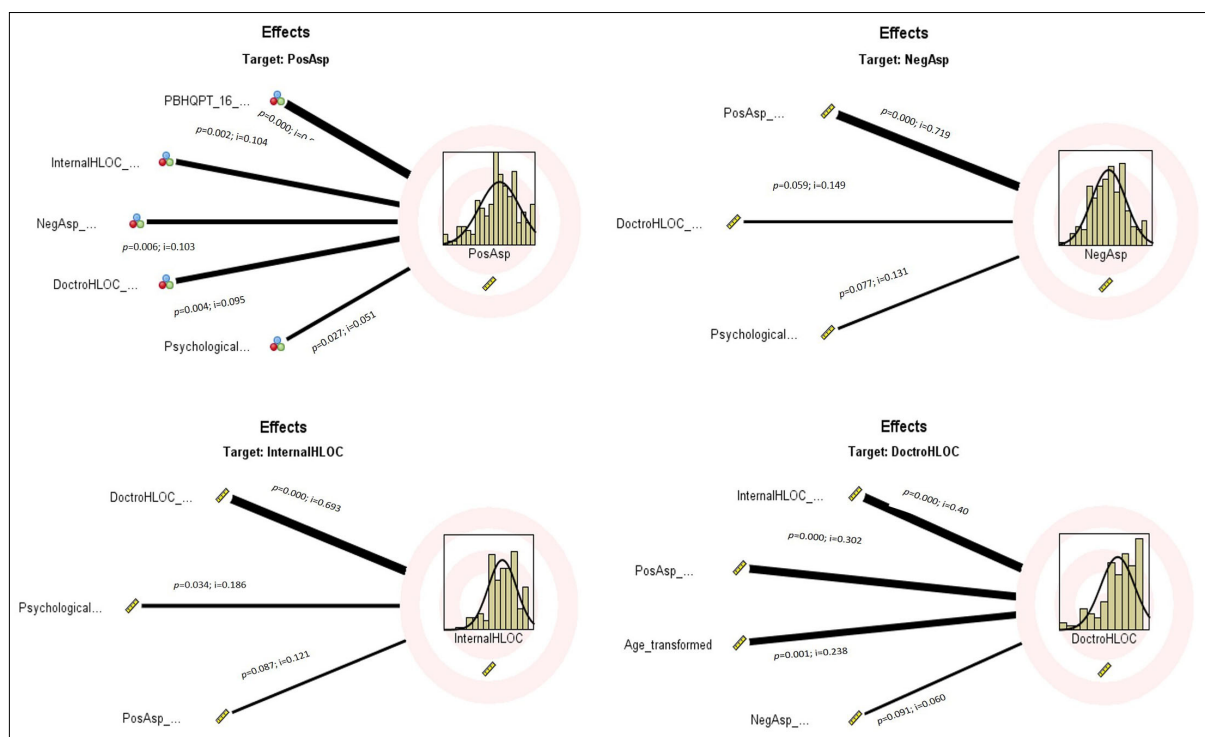
DISCUSSION

In our study we performed an analysis of the Hungarian version of the Patient's Health Belief Questionnaire on Psychiatric Treatment (PHBQPT). As the assessment of internal consistency and factorial analysis of the scale were not included in the original paper on the PHBQPT, this is the first structural analysis of the instrument. Validity, reliability and factorial structure of the scale is acceptable and suitable for clinical assessment of the health belief control and drug attitude. The variance of subscales were independent of age and gender. According to the results of our study, this instrument can be used in a Hungarian sample of psychiatric patients.

De Las Cuevas et al conducted their study enrolling 588 ambulatory care psychiatric patients published in

2019 (De Las Cuevas & de Leon, 2019). The authors selected from the items of MHLC, DAI-10 and HPRS the most relevant ones considering the weighting factor and impact of each item on the total score of the source scale and determined the item's predictive value regarding adherence. Our results have shown that the internal consistency of the subscales is acceptable with the exception of the Psychological reactance subscale, which is a short subscale comprised of three items with a particularly weak consistency (Cronbach's alpha =0.21). However, the factorial analysis supported the criteria of separation and uniformity of the 5 subscales. In the original study, the highest mean score (5.5 ± 1.2) could be observed at item 13 ("Whenever my condition worsens, I should consult a medically trained professional"), similarly, in our study this item was given the highest score by the patients (5.5 ± 0.9). The scores given at almost all items were similar in our sample with the item scores presented by the authors of the original scale.

On the other hand, there were higher differences between the mean scores of our sample and of the original analysis at the following three items: item 9 "Medications make me feel more relaxed" (our

Figure 2. Predicted importance and effects of the subscales on all assessed factors

Predictive importance of subscales of the PHBQPT are shown in the figure (except the Psychological Reactance subscale). p, p-value; i, importance

study: 4.3 ± 1.3 vs original study: 4.9 ± 1.7); item 14 „It is unnatural for my mind and body to be controlled by medications” (3.5 ± 1.6 vs 2.9 ± 1.9) and item 15 “My thoughts are clearer on medication” (3.6 ± 1.6 vs 4.0 ± 1.9). All these items belong to the negative and positive aspects of drug treatment subscales. In our sample the attitude towards drug treatment is definitely more negative than the assessed attitude in the original sample. This difference can be observed as well when comparing the scores of the subscales: in our sample the scores of the Negative Aspects of Medication and Psychological Reactance subscales were higher compared to the original Spanish sample. This can probably be explained by the difference between the two samples: in the original study ambulatory care patients were enrolled. We enrolled psychiatric patients requiring hospital treatment possibly with more severe symptomatology, thus, the appearing difference between these item scores can rather be considered as a proof of sensitivity and reliability of the questionnaire. Nevertheless, it is important to emphasize that the drug treatment started during hospitalization is a determining experience for the patient. The early negative feelings towards medication may affect negatively

the adherence at a later stage, when the patient will receive ambulatory care.

The concept of psychological reactance was criticized by several authors regarding the reliability of the questionnaires which were in use for its assessment. Merz was the first to create a four factor instrument of 18 items called Psychological Reactance in 1983 (Merz, 1983). The introduction of the scale was followed by a serious debate on the pages of the Psychological Reports regarding its usability. The English version of the scale developed by Merz was analyzed by Tucker and Byers (Tucker, 1987). Based on their results only two factors of four could be differentiated (“freedom behaviour” and “freedom of choice”) and they found the psychometrical properties of the scale unacceptable, but the possibility of translation problems couldn’t be excluded either (Tucker, 1987). For this reason, Hong and Ostini (1989) reanalyzed the data of Tucker and Byers and they could differentiate four factors (“Freedom in decision and behaviour”; “Behavioural reactance”; “Scepticism towards others’ advice” and “Conformity reactance”), but the psychometric quality of the scale seemed to remain unstable (Hong & Ostini, 1989). Later Hong (1992) and Hong and Faedda (1996)

developed two shortened (14 and 11 item) versions of the scale. The factors were labeled as "Emotional response towards restricted choice with items"; "Reactance to compliance with items"; "Resisting the influence of others with items" and "Reactance toward advice and recommendations with items". The Hong Psychological Reactance Scale is a widely used instrument in many countries despite of the fact that in many studies its internal consistency has proved to be weak. When using the scale in different populations, stability problems could be observed and the replicability of the results seems to be low. The HPRS has been criticized due to its proneness to reflect higher psychological reactance in the case of men and younger subjects than in women or elderly population. The validity of the scale was reevaluated by Jonason and Knowles using a different statistical method (Jonason & Knowles, 2006). According to the authors, the scale has only one dimension and its stability and reliability are low. They concluded that probably this psychological construct cannot be reliably assessed with the aid of a questionnaire filled by the subjects. However, psychological reactance is one of the influencing factors of attitude towards treatment, thus, 3 items of the HPRS were selected by De Las Cuevas et al for the PHBQPT (De Las Cuevas & de Leon, 2019).

An interesting modeling of the MHLC was created by Hungarian authors as well. Their model reflects the endpoints of the spectrum where the different dimensions are demonstrated (Berend, 2012). The analysis of this complex construct is done through the evaluation of the effect of different constellations of factors (responsible person and helpless person; helping doctor and helpless doctor; factors that can be influenced and factors that cannot be influenced). Another interesting aspect of the health control belief is presented in a paper published by Konkoly-Thege et al (2014). The authors compared the control belief of citizens of democratic Western societies with the control belief of subjects who earlier lived in Eastern countries with totalitarian communist governments. The authors hypothesized that there might be a difference regarding internal health locus of control and the locus of control attributed to the doctor between subjects socialized in the different types of societies. They found that the MHLC questionnaire is stable and the results are not influenced by cultural and socialization differences. In our study the scores of the PHBQPT of the Hungarian sample were comparable to the scores published by the Spanish authors of the original scale.

We can conclude that PHBQPT can be used for the evaluation of a very complex psychological construct composed by elements which are part of a multivariable model. Taking into consideration the valuable help it can give despite of its minor deficiencies and the scale can be useful in clinical practice. The results of our study are comparable to the scores of the original publication and the replicability is satisfactory despite of the difference between the enrolled populations (hospitalized patients vs. ambulatory care patients). The use of the scale in clinical practice may be useful for the detailed evaluation of the attitude of patients towards treatment which may help in planning the adherence-improving interventions necessary during long-term therapy. Besides clinical practice, the results of further studies with this instrument could be helpful in planning of the national suicide prevention programs.

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CONFLICT OF INTEREST:

Authors declare no conflict of interest.

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Az Egészségkontrollhit és Pszichiátriai Kezeléssel Szembeni Attitűd Kérdőív validálása és vizsgálata magyar pszichiátriai betegek mintáján

Bevezetés: Az adherenciát és ezáltal a terápia eredményességét jelentősen meghatározza a betegek kezeléssel szembeni attitűdje, különösen a krónikus betegségek esetén. Az észlelt kontroll (saját képességekbe vetett hit, amelyek az elérendő célhoz, a gyógyuláshoz vezető magatartáshoz szükségesek), valamint az egészségkontroll helye is befolyásolja a terápiához való kötődést, vagyis az, hogy a személy milyen mértékben hozza összefüggésbe gyógyulását, egészsége megőrzését saját magatartásával, vagy más, külső személyekkel. Az egészségkontroll hit, a gyógyszeresedési attitűd és a pszichológiai reaktancia együttes mérését lehetővé tevő kérdőívet fejlesztettek ki De Las Cuevas és mtsai a kezeléssel szembeni attitűd komplex vizsgálata céljából 2019-ben (Patient's Health Belief

Questionnaire on Psychiatric Treatment, PHBQPT). **Módszerek:** A vizsgálatba 188 (115 nő és 73 férfi; átlag életkor=32,8±10,7 év) páciens-t vontunk be a Nyíró Gyula Országos Pszichiátriai és Addiktológiai Intézet általános pszichiátriai osztályairól. A 17 tételből álló Egészségkontroll hit kérdőív magyar verzióját alkalmaztuk a vizsgálatban. A magyar változat elkészítéséhez az eredeti skála szövegét munkacsoportunk egy tagja magyarra fordította, majd ezt a verziót egy, a vizsgálatától független személy visszafordította angol nyelvre. Ezt követően egy angol anyanyelvű kolléga a fordítást és az eredeti skála szövegét összevetette. Az összehasonlító elemzés eredménye szerint jelentős tartalmi különbség nem volt a két angol verzió között, megfelelőnek értékeltük. A kérdőív 5 alskálából áll: 2 alskála a kontrollhit kategóriákba tartozó 'orvosnak tulajdonított kontroll' (Doctor HLOC), 'belső kontroll' (Internal HLOC); 2 alskála a gyógyszerrel szembeni attitűdöknek megfelelő 'pozitív aspektus' (PozAsp) és 'negatív aspektus' (NegAsp); valamint a 'pszichológiai reaktivitás' (Psychological reactance, PsycholReact) alskálák. A kérdőív pontszámok eloszlását Kolmogorov-Smirnov-féle normalitás teszttel végeztük. A belső konzisztenciát, valamint az ítemenkénti és az inter-ítem korrelációs értékeket reliability analysis segítségével elemeztük. A skála strukturális jellemzését az egyes tételek és skálák kihagyása esetén mutatott értékekkel egészítettük ki. A kérdőív faktoriális elemzéséhez főkomponens-analízist (principle component analysis, PCA) alkalmaztunk Kaiser-féle normalizációs rotáció módszerrel. A p-értéket 0,05 alatti érték esetén fogadtuk el szignifikáns szintűnek. A statisztikai számításokat az SPSS 24.0 software alkalmazásával végeztük. **Eredmények:** Az összes tétel együttes vizsgálata elfogadható belső konzisztenciát mutat (Cronbach's alpha=0,62), azonban a skála értékelésénél alapvetően nem a totál pontszám, hanem az alskálánkénti pontszámok meghatározóak klinikai szempontból. Az egyes tételek kiemelése a skála szerkezetéből nem javítja érdemben az alfa értékét. A főkomponens-analízissel a tételek 5 faktorba sorolását találtuk a legerősebb modellnek, amely az eredeti kérdőív 5 alskálájának feleltethető meg a pontszámok alapján. Míg egy komponens esetén a megmagyarázott hányad 26,4%, 5 komponens alkotása után ez az érték 60,8%. A faktorelemzés tehát saját mintánkon is megerősítette az alskálák mint önállóan értelmezhető egységek alkalmazhatóságát. Az alskálánkénti elemzés arra utalt, hogy mindegyik alskála belső konzisztenciája 80% feletti, kivéve a PsycholReact, ami gyenge értékkel bírt. A kérdőív eredetileg bemutatkozó elemzésben szereplő értékekkel összehasonlítva a saját mintánkkal azt találtuk, hogy a tételenkénti és az alskála átlagpontszámok jelentősen nem tértek el egymástól, sőt, a legmagasabb pontszámot mindkét mintában ugyanazon a tételen érték el a páciensek. **Konklúzió:** Az Egészségkontrollhit és pszichiátriai kezeléssel szembeni attitűd kérdőív magyar verziójának statisztikai elemzésével megbízhatónak és validnak találtuk magyar pszichiátriai betegek mintáján is. Az eredeti közleményben szereplő ambuláns betegek mintájával végzett vizsgálatokhoz képest a saját, kórházi kezelés alatt álló betegek mintájának hasonló eredménye a kezelés körülményeitől függetlenül alkalmazható eszközről tanúskodik. Az Egészségkontrollhit és pszichiátriai kezeléssel szembeni attitűd kérdőív ígéretes eszköz lehet a páciensek vizsgálatára és monitorozására a terápia folyamán, ami jelentős segítséget nyújthat a kezelőorvos számára a kezeléssel kapcsolatos kommunikációs stratégia vezetésében a hosszútávú adherencia kialakítása, illetve megerősítése céljából.

Kulcsszavak: gyógyszereszedési attitűd; adherencia; kontrollhit; gyógyszeres kezelés; pszichiátriai kezelés