Reliability and validity of Chaban Quality of Life Scale

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Background: Patient`s quality of life is one of the principal component in clinical decision-making. This term is usually defined as subjective well-being and there is crucial necessity to have a reliable and valid scale for its estimation. Unfortunately to date there isn`t any brief quality of life scale which reliability and validity was established on the Ukrainian and Russian-speaking population.
Objective: To assess the reliability and validity of the Chaban Quality of Life Scale (CQLS)

Material & Methods: 102 young volunteers from Ukraine (age 19-30 years) were evaluated with 2 quality of life scales – CQLS (10-item scale) and translated version of Quality of Life Enjoyment and Satisfaction Questionnaire Short Form (16-item scale, without proved validity and reliability on Ukrainian population). The retest was done at 3-7 days after initial assessment. For statistical analysis was used SPSS statistics 21.

Results: Overall both scales had acceptable internal consistency with Cronbach`s α 0,804 in Q-LES-Q and 0,905 in CQLS. The first scale had lower internal consistency because of relatively low correlation of items 3 and 13 with total score (Table 1a, 1b). The correlations matrix with assessed variables revealed high association between Q-LES-Q and CQLS (r=0,845; p<0,001) and low but statistically significant correlation (spearman coefficient) between both scales and presence of the disease. Other variables did not correlate with the total score all of which proves convergent and discriminant validity. Correlation coefficient between test and retest scores confirmed reliability of CQLS (r=0,923; p<0,001) and Q-LES-Q (r=0,862; p<0,001) (Table 2). Principal component analysis of CQLS extracted only 1 factor (component) which proves unidimensional nature of the scale. The same analysis for Q-LES-Q revealed 4 components that reflect not homogeneous construct.

Conclusion: Both scales have acceptable internal consistency, test-retest reliability, convergent and discriminant validity with slightly better estimates in CQLS. The latter scale had also preferable construct validity. Together with small number of items this makes CQLS a good candidate for quality of life evaluation on Ukrainian and Russian-speaking population.

Table 1a. CQLS Internal consistency

Item	Item-Total correlation	Cronbach`s α if item deleted
1	0,655	0,896
2	0,708	0,893
3	0,715	0,892
4	0,550	0,904
5	0,771	0,889
6	0,700	0,893
7	0,706	0,893
8	0,554	0,902
9	0,520	0,904
10	0,815	0,888
Total		0,905

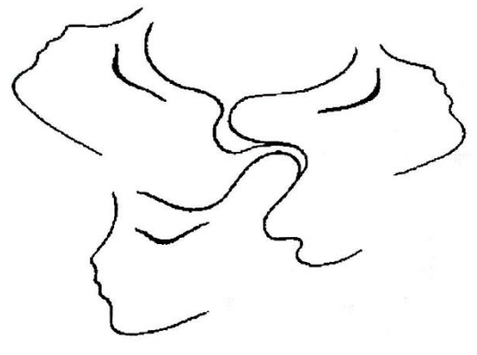
Table 1b. Q-LES-Q Internal consistency

Item	Item-Total corellation	Cronbach`s α if item deleted
1	0,537	0,783
2	0,416	0,792
3	0,272	0,803
4	0,329	0,799
5	0,369	0,796
6	0,441	0,790
7	0,557	0,780
8	0,537	0,784
9	0,438	0,791
10	0,483	0,787
11	0,425	0,792
12	0,413	0,793
13	0,134	0,820
14	0,711	0,770
Total		0,804

Table 2. Association between total score from 2 scales and other variables

	Correlation coefficient	CQLS	Q-LES-Q
Chaban Quality of Life Scale	Pearson correlation	1	0,845*
Q-LES-Q	Pearson correlation	0,845*	1
Medicaments	Spearman correlation	-0,285*	-0,309*
Marrital status	Spearman correlation	-0,075	-0,145
Gender	Spearman correlation	-0,047	-0,078
BMI	Pearson correlation	0,086	0,181
Age	Pearson correlation	-0,042	0,004
Height	Pearson correlation	0,015	-0,012
*P<0,01			
Test-retest reliability	Pearson correlation	0,923	0,862

PSYCHOSOMATICS



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