



The psychometric properties of the Portuguese version of the Adolescent Pediatric Pain Tool (APPT-PT) in children with cancer

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Background and aims

As pain is both subjective and multidimensional, tools that allow the assessment of other dimensions of pain besides intensity are needed. As far as we know, no multidimensional tool is available to assess pain in Portuguese children. The Adolescent Pediatric Pain Tool (APPT) is a comprehensive self-report measure that is widely used in North-american children diagnosed with a variety of conditions.¹ The APPT was originally developed to assess pain in English-speaking hospitalized children aged 8-17 years old. APPT assesses not only pain intensity, but also pain location and pain quality. It has three components: the Body Outline Diagram, the Word Graphic Rating Scale and a List of pain descriptors.

The aim of this study is to examine the psychometric properties of the Portuguese version of the Adolescent Pediatric Pain Tool (APPT-PT) in Portuguese children with cancer.

Methods

Prospective methodological study with 150 Portuguese children with cancer aged 8-17 years-old. Data collection occurred both in outpatients and inpatients. Hospitalized children reported their pain during a maximum of 4 times. Children completed the Portuguese version of the APPT according to their pain at the moment or their last pain episode. At the same time, the Visual Analogue Scale (VAS) was used to report pain intensity.

Data were analyzed using the IBM SPSS Statistics 19 Software (IBM, Armonk, NY, USA). Construct validity was established with multiple correspondence analysis (MCA) with four dimensions with optimal scaling method. Convergent validity was assessed examining the correlation between the different components of the tool using Spearman correlation (r_s), and a value >0.70 was considered acceptable.² Criterion validity was assessed examining the correlation between the WGRS and the VAS, and a value >0.70 was considered acceptable.³ Reliability was assessed by calculating internal consistency, considering a value >0.9 excellent, >0.8 good, >0.7 acceptable, >0.6 questionable, >0.5 poor and <0.5 unacceptable.⁴

Results

Sample characteristics

Median age of children ($n=150$) was 13 years old with an interquartile range of 5 years. More than a half were girls (86, 57.3%). Most of the neoplastic diseases were liquid tumors (58.7%); only 25% were solid tumors.

Psychometric analysis

Construct validity and internal consistency

Table 1- Construct validity and internal consistency by dimension of the APPT-PT

	APPT-PT (Dimension)			
	1	2	3	4
Construct validity				
Pain descriptors	26	14	13	13
Loading factors between	0.025-0.373	0.017-0.189	0.027-0.238	0.012-0.310
% of Variance	9.36	5.87	4.40	4.02
Internal consistency	0.85	0.75	0.67	0.63

Convergent validity

Table 2 - Correlation between BOD, WGRS and list of pain descriptors (r_s)

	No. of locations	Pain descriptors
Intensity	0.181 *	0.268 *
No. of locations	-	0.248 *

* Correlation is significant at the 0.01 level

Criterion validity

Table 3 - Correlation between VAS and WGRS

Pain intensity	VAS	WGRS
Median (interquartile range)	4 (3)	4 (2.6)
Correlation, r_s	0.752*	

* Correlation is significant at the 0.001 level.

Conclusion

The Portuguese version of the APPT has acceptable psychometric properties and its use is supported in Portuguese cancer children aged 8-17 years old.

References

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