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RESEARCH

VALIDITY AND RELIABILITY BRAZILIAN VERSION PEDIATRIC PLAY-PERFORMANCE SCALE FOR CHILDREN

VALIDADE E CONFIABILIDADE DA VERSÃO BRASILEIRA DA ESCALA PEDIÁTRICA PLAY-PERFORMANCE SCALE FOR CHILDREN

VALIDEZ Y CONFIABILIDAD DE LA VERSIÓN BRASILEÑA DE LA ESCALA PEDIÁTRICA PLAY-PERFORMANCE SCALE FOR CHILDREN

Sandra Alves do Carmo[1]
Isabel Cristina dos Santos Oliveira[2]
Sabrina Ayd Pereira José[3]
Tania Vignuda de Souza[2]

[1]Secretaria Municipal de Saúde. Duque de Caxias, RJ - Brazil.

[2]Universidade Federal do Paraná -UFPR, Departamento de Enfermagem. Curitiba, PR- Brazil.

[3]Universidade Federal do Rio de Janeiro - UFRJ, Campus Macaé Professor Aloísio Teixeira. Macaé, RJ - Brazil.

Corresponding Author: Sandra Alves do Carmo
E-mail: Sandra Alves do Carmo

Author contributions:

Statistical Analysis: Sandra A. Carmo, Isabel C. S. Oliveira; ***Data Collection:*** Sandra A. Carmo; ***Conceptualization:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza; ***Project Management:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza; ***Investigation:*** Sandra A. Carmo, Isabel C. S. Oliveira; ***Methodology:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José; ***Writing – Original Draft:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza; ***Writing – Review and Editing:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza; ***Supervision:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza; ***Validation:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza; ***Visualization:*** Sandra A. Carmo, Isabel C. S. Oliveira, Sabrina A. P. José, Tania V. Souza.

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ABSTRACT

Objective: assess validity evidence based on relations with other variables and interrater reliability for the Brazilian version titled Pediatric Play-Performance Scale for Children. **Method**: methodological study with quantitative approach, conducted between June and October 2021 in referral institute specialized in cancer treatment. Sample consisted of 59 children/adolescents assessed by relatives/caregivers and four trained nurses, with maximum 30-minute interval between assessments. **Results**: most children assessed fell between 2 and 5 years of age (37.29%), while central nervous system tumors proved most prevalent (23.73%). Intraclass correlation coefficient indicated excellent agreement (0.86) between pediatric nurse assessments and relatives/caregivers assessments. Assessment comparisons revealed similarities. Criterion validity analysis showed age, palliative treatment, and curative treatment integrated with palliative care increased mean scale score. Relatives/caregivers assessments revealed higher educational attainment positively influenced scale score. **Conclusion**: scale proved reliable and relatives/caregivers can apply it. Consistent sample application remains needed to deepen psychometric properties.

Keywords*:* Validation Study; Pediatric Nursing; Oncology; Pediatrics; Functional Physical Performance; International Classification for Functionality, Disability and Health.

RESUMO

Objetivo: *avaliar a evidência de validade baseada na relação com outras variáveis e a confiabilidade interavaliadores da versão brasileira da escala pediátrica Play-Performance Scale for Children.* ***Método***: *trata-se de um estudo metodológico de abordagem quantitativa, realizado entre os meses de junho e outubro de 2021, em um instituto de referência no tratamento do câncer. A amostra foi composta por 59 crianças/adolescentes, avaliados por seus familiares/acompanhantes e por quatro enfermeiros treinados, com um intervalo máximo de 30 minutos entre as avaliações.* ***Resultados***: *a maioria das crianças avaliadas estava na faixa etária de 2 a 5 anos (37,29%), sendo os tumores do sistema nervoso central os mais prevalentes (23,73%). O coeficiente de correlação intraclasse indicou excelente concordância (0,86) entre as avaliações dos enfermeiros pediatras e dos familiares/acompanhantes. Ao comparar as avaliações, observaram-se semelhanças. Na validade de critério, verificou-se que a idade, o tratamento paliativo e o tratamento curativo integrado ao paliativo influenciaram no aumento médio do escore da escala. Na avaliação dos familiares/acompanhantes, observou-se que uma escolaridade mais elevada influenciou positivamente o escore da escala.* ***Conclusão***: *constatou-se que a escala é confiável e pode ser aplicada pelos familiares/acompanhantes. Ressalta-se a necessidade de aplicação em uma amostra consistente para aprofundar as propriedades psicométricas.*

Palavras-chave: *Estudo de Validação; Enfermagem Pediátrica; Oncologia; Pediatria; Desempenho Físico Funcional; Classificação Internacional de Funcionalidade, Incapacidade e Saúde.*

RESUMEN

Objetivo: *evaluar la evidencia de validez basada en la relación con otras variables y la fiabilidad entre evaluadores de la versión brasileña de la escala pediátrica Play-Performance Scale for Children.* ***Método***: *se trata de un estudio metodológico de enfoque cuantitativo, realizado entre los meses de junio y octubre de 2021, en un instituto de referencia en el tratamiento del cáncer. La muestra estuvo compuesta por 59 niños/adolescentes, evaluados por sus familiares/acompañantes y por cuatro enfermeros capacitados, con un intervalo máximo de 30 minutos entre las evaluaciones.* ***Resultados***: *la mayoría de los niños evaluados se encontraban en el rango de edad de 2 a 5 años (37,29%), siendo los tumores del sistema nervioso central los más prevalentes (23,73%). El coeficiente de correlación intraclase indicó una excelente concordancia (0,86) entre las evaluaciones de los enfermeros pediatras y de los familiares/acompañantes. Al comparar las evaluaciones, se observaron similitudes. En la validez de criterio, se verificó que la edad, el tratamiento paliativo y el tratamiento curativo integrado con paliativo influyeron en el aumento promedio del puntaje de la escala. En la evaluación de los familiares/acompañantes, se observó que una escolaridad más elevada influyó positivamente en el puntaje de la escala.*

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***Conclusión**: se constató que la escala es confiable y puede ser aplicada por los familiares/acompañantes. Se resalta la necesidad de aplicación en una muestra consistente para profundizar en las propiedades psicométricas.*
***Palabras clave**: Estudio de Validación; Enfermería Pediátrica; Oncología Médica; Pediatría; Rendimiento Físico Funcional; Clasificación Internacional del Funcionamiento; Discapacidad y de la Salud.*

INTRODUCTION

Childhood and adolescent cancer ranks among leading causes of disease-related death in children and adolescents. In Brazil, each year during the 2023–2025 triennium will see an estimated 7,930 new diagnoses among individuals aged 0 to 19 years, with an estimated risk of 134.81 per million[1].

Aligned with United Nations Agenda 2030 commitments and the Global Action Plan for Noncommunicable Diseases, efforts to address childhood and adolescent cancer have gained international prominence, including goals such as raising the global survival rate to at least 60% by 2030 and prioritizing the disease in public policies at global, regional, and national levels[2].

Therapeutic advances have secured cure rates around 80% internationally, yet Brazil faces persistent challenges including late diagnosis and limited access to specialized treatment[3]. The country has shown no decline in childhood and adolescent cancer cure rates over the past 40 years[4].

Treatment for childhood and adolescent cancer, which often includes chemotherapy, surgery, and radiotherapy, requires management by multidisciplinary teams in specialized centers. Beyond confronting the disease itself, physical, psychological, and social impacts from both cancer and its therapies demand attention. Children and adolescents undergoing oncologic treatment frequently experience functionality decline, which may impair development, autonomy, and quality of life[3-6].

Functionality encompasses bodily functions, activities, and social participation, including mobility, communication, daily life activities, and social interactions such as school attendance[7]. Literature emphasizes maintaining adequate functionality levels even during disease-modifying treatment. Continuous and appropriate assessment with reliable, sensitive instruments proves essential[5,6,8].

One study examined muscle strength, functional mobility, and daily life activity performance in 45 children and adolescents with cancer, with 15 receiving oncologic treatment, using isometric strength testing, the five-times sit-to-stand test, and the computerized Pediatric Evaluation of Disability Inventory (PEDI-CAT)[9].

Results from that study revealed significantly inferior functional performance among participants in treatment compared to the control group. Early and ongoing functional assessment with reliable instruments emerged as crucial to guide physiotherapeutic interventions and enhance quality of life for these patients[9].

Thus, only one pediatric scale assesses functionality: the Play-Performance Scale for Children (PPSC), developed in Chicago[10] based on Arnold Gesell's Growth and Development Theory and the Karnofsky Performance Status (KPS) model adapted for pediatric oncology populations[11].

The PPSC evaluates functionality in children and adolescents with cancer aged 1 to 16 years through observation of activities and play they can perform. This simple, quickly administered scale enables parents to provide reliable information to health teams regarding child functional performance[10-11].

Prior research confirmed PPSC reliability in pediatric functionality assessment[10-13], with use as an indicator for therapeutic and rehabilitation decisions, even during disease treatment[5,11,12].

In 2021, the PPSC underwent translation and cross-cultural adaptation to Brazilian Portuguese, administered by pediatric nurses to 30 children and adolescents. The Brazilian version demonstrated satisfactory equivalence to the original scale, with a Content Validity Index of 95.8% and internal consistency of 0.908[13].

Studies exploring psychometric properties of this version remain scarce, particularly evidence of validity based on relations with other variables and interrater reliability, given the scale's design for use by both health professionals and family members[10-13].

Verification of psychometric data will enable practical, secure functionality evaluation, allowing precise monitoring of disease and treatment effects on physical and social performance in children and adolescents. Such monitoring facilitates early limitation detection and guides interventions to minimize negative impacts and promote quality of life throughout oncologic treatment.

Given the topic's relevance and the need for appropriate functional assessment in children and adolescents with cancer to encourage activities and play that preserve functionality, alongside deeper psychometric data exploration, the study objective emerged: assess validity evidence based on relations with other variables and interrater reliability for the Brazilian version of the pediatric PPSC scale.

METHOD

Study type

Methodological study with quantitative approach.

Study population

The study included 59 children and adolescents with cancer aged 1 to 16 years, along with their relatives or caregivers.

Selection criteria

Children and adolescents aged 1 to 16 years (ages for which the scale was developed and validated), with cancer diagnosis, admitted to pediatric inpatient units and pediatric emergency observation room, accompanied by a relative or caregiver aged over 18 years who declared themselves the primary caregiver, took part in the study. Those who chose not to assess the child or adolescent through PPSC scale application were excluded.

Sample definition

Sample size calculations used G*Power version 3.1.9.2(14) and BioEstat version 5.3(15). From the mean attendance in inpatient units and pediatric emergency observation room (100 attendances), exact binomial test was applied with 90% test power, 21% effect size, 5% significance level, and 50% constant proportion.

Representativeness for each data collection point was verified through proportional allocation stratification, where information gathered from 43 children and adolescents in inpatient beds, and 16 children and adolescents in pediatric emergency. Notably, early data collection registered sample losses due to death (one) and clinical status worsening in children and adolescents (six). Thus, the final study sample consisted of 59 children and adolescents, according to previously established inclusion criteria.

Figura 1 - Escala PPSC versão original e versão brasileira[13]

	VO*	VF†
Titulo	*Play-Performance Scale for Children*	Escala de desempenho de crianças no brincar/brincadeiras
100	*Fully active, normal*	Totalmente ativo ou normal
90	*Minor restrictions in physically strenuous activity*	Poucas restrições em atividade fisicamente exaustiva
80	*Active, but tires more quickly*	Ativo, porém, cansa-se mais rapidamente
70	*Both greater restriction of, and less time spent in, active Play*	Maior restrição e menos tempo gasto em brincadeiras ativas
60	*Up and around, but minimal active play; Keeps busy with quieter activities*	Acorda com disposição, mas realiza poucas brincadeiras ativas, mantém-se, minimamente, ocupado com brincadeiras ativas
50	*Gets dressed, but lies around much of the day; no active play; able to participate in all quiet play and activities*	Veste-se, mas fica deitado a maior parte do dia; sem participar de brincadeiras ativas. Porém, é capaz de participar de todas as brincadeiras e atividades tranquilas
40	*Mostly in bed; participates in quiet activities*	Permanece a maior parte do tempo na cama; participa de atividades tranquilas
30	*In bed; Needs assistance even for quiet play*	Na cama; necessita de assistência, mesmo para brincadeiras tranquilas
20	*Often sleeping; Play entirely limited to very passive activities*	Dorme frequentemente; brincadeiras inteiramente limitadas às atividades muito passivas
10	*No play; does not get out of bed*	Não brinca e não sai da cama
0	*Unresponsive*	Sem resposta

Legenda: VO* – Versão original; VF† – Versão final

Data collection

Four nurses working at the study institution were invited to participate in data collection, applying the PPSC scale and guiding relatives in scale application. Prior training with the principal researcher via Google Meet, with 40 minutes duration, proved necessary. Once deemed competent, they began data collection. Training covered each data collection stage, PPSC scale application, and explanation to relatives or caregivers.

During applicator nurse training, all data collection instruments received detailed presentation and explanation. Instruments included: form for nurse data collection from children and adolescents, containing sociodemographic and clinical characterization data for the child and adolescent, relative or caregiver characterization data, and the PPSC scale; and form for relative data collection containing only the PPSC scale.

Data collection occurred between June and October 2021 in inpatient and pediatric emergency sectors of an institute specialized in childhood and adolescent cancer treatment, located in Rio de Janeiro, RJ, Brazil. Thus, the PPSC scale applied in parallel by the pediatric nurse and by the child or adolescent relative or caregiver, with maximum 30-minute interval between assessments, without communication or interference during PPSC applications. Figure 2 presents the PPSC scale application protocol.

Data analysis

Appropriate statistical analyses were conducted to evaluate validity evidence based on relations with other variables (concurrent criterion validity) and interrater reliability for the Brazilian PPSC version.

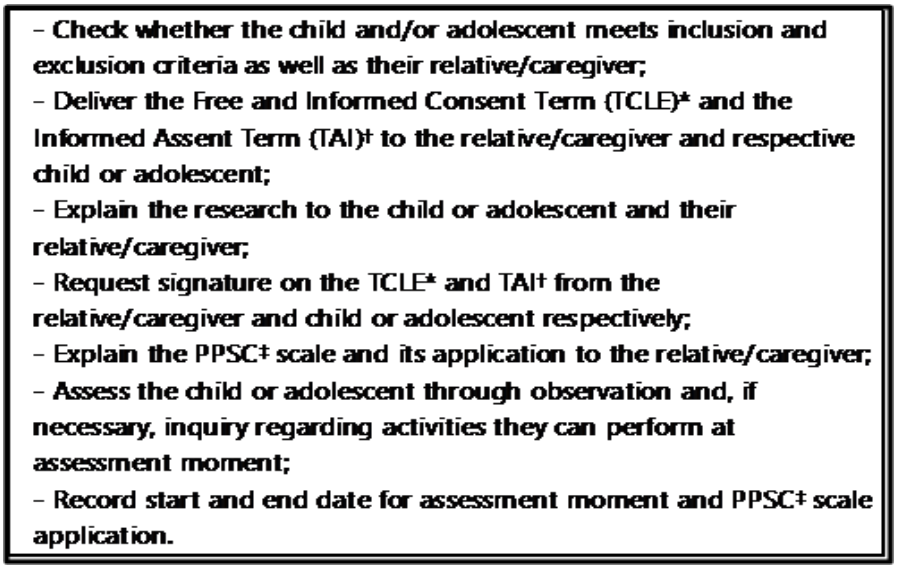
Interrater reliability, that is, degree of agreement between scores assigned by pediatric nurses and relatives/caregivers, was assessed through Intraclass Correlation Coefficient (ICC), type "two-way mixed, consistency, mean measures". This model proves suitable to examine consistency between two raters who apply the same scale to a shared sample. Values ≥ 0.75 were deemed indicative of good reliability[16].

To compare scores obtained from the two raters, normality of PPSC scale data distribution was tested initially through Shapiro-Wilk test. The null hypothesis of normality was rejected ($p < 0.05$), which indicated non-normal data distribution.

Consequently, non-parametric Mann-Whitney U test was employed, appropriate for independent sample comparisons under non-normal distribution conditions, to detect potential significant differences between scores assigned by the two rater groups.

Concurrent criterion validity was examined via multiple linear regression using Backward variable selection method. This analysis designated total PPSC score as dependent variable, which represents child/adolescent functionality level.

Figura 2 – Protocolo de aplicação da escala PPSC.



Fonte: Carmo 2024[13]

Fonte: autores

Independent variables initially incorporated into the model encompassed sociodemographic data, clinical diagnosis, surgical treatment type, symptom presence, current treatments, and relative/caregiver educational attainment. The Backward method facilitated stepwise removal of variables with weaker explanatory capacity, preserving in the final model solely those demonstrating statistically significant association with functional score. This approach enabled examination of scale relations with other variables theoretically associated with the evaluated construct.

Child and adolescent age range was grouped according to Arnold Gesell growth and development theory (theory underlying scale development)[17]. Diagnosis categorized per CICI-3 classification[18] as solid or hematologic tumors for statistical analyses.

Ethical aspects

This study adhered to human research norms set forth by National Health Council Resolution No. 466/12 and Circular No. 2/2021 from the National Research Ethics Commission. Approval granted by the Research Ethics Committee of EEAN and São Francisco de Assis Health Care Institute at UFRJ (proponent research institution) and the co-participating research institution, study setting, in May 2020.

All participants and their guardians signed the Free and Informed Consent Term and received the Assent Term.

RESULTS

Characterization of children and adolescents with cancer assessed with the ppsc scale

The sample comprised 118 participants, including 43 children, 16 adolescents, and their respective relatives/caregivers. In relation to sociodemographic independent variables, the age range with highest prevalence among assessed children/adolescents was 2 to 5 years (n=22; 37.29%). As for gender, male corresponded to 50.85% of the sample. Concerning clinical independent variables, central nervous system tumor diagnosis showed prevalence of 23.73%.

Regarding treatment for children and adolescents, 84.75% initiated treatment recently, within one month to one year; most received curative treatment (81.36%), with chemotherapy as the most prevalent current treatment (50.85%), as shown in Table 1.

In relation to symptoms, 79.66% of children/adolescents presented one or more symptoms, of which 42.37% reported pain; 27.12% reported fatigue; 20.34% presented fever; 15.25% drowsiness; 11.86% dyspnea; 6.78% nausea and vomiting; and 3.39% anorexia. Among these symptoms, only 27.12% of children/adolescents had symptoms controlled.

Characterization of relatives/caregivers of children and adolescents with cancer assessed with the PPSC

Relatives/caregivers were characterized through sociodemographic independent variables. Findings revealed that 84.75% of relatives or caregivers were mothers, and 42.37% fell within the 31 to 40 years age range. As for relatives/caregivers educational attainment, 50.85% completed high school and 38.97% either had not completed high school or possessed only elementary education.

Validity evidence based on relations with other variables

Validity evidence based on relations with other variables investigated through analysis of associations between scale scores and external variables related to the functionality construct. Associations thus performed between independent variables and the two PPSC scale applications: pediatric nurse assessment and relative/caregiver assessment.

In pediatric nurses' assessment, children aged 6 to 10 and 11 to 16 years showed tendency toward higher PPSC scores compared to children aged 0 to 1 year, meaning children aged 6 to 16 years exhibited higher PPSC scores than those aged 0 to 1 year.

As for treatment type, children and adolescents who received palliative treatment or curative treatment with palliative showed tendency toward higher scores compared to those who underwent curative treatment alone.

Relatives/caregivers with elementary education completed, high school completed, and higher education completed influenced higher PPSC scores compared to those with incomplete elementary education, as shown in Table 2.

The backward technique retained only the "Controlled symptoms" factor in the final model. However, this factor showed no significant association with relatives/

Table 1 – Characterization of children and adolescents regarding sociodemographic and clinical characteristics. Rio de Janeiro, RJ, Brazil, 2021.

Variables	n	%
Age range		
0 – 2	3	5.08
2 – 5	22	37.29
6 – 10	18	30.51
11 – 16	16	27.12
Gender		
Female	29	49.15
Male	30	50.85
Diagnoses		
Retinoblastoma	4	6.78
Malignant bone tumors	11	18.64
Wilms tumor	3	5.08
Lymphomas	10	16.95
Central nervous system tumors	14	23.73
Soft tissue sarcomas	5	8.47
Neuroblastoma	2	3.39
Rhabdomyosarcoma	6	10.17
Leukemia	2	3.39
Testicular malignant neoplasm	1	1.69
Hepatic tumors	1	1.69
Year of treatment initiation		
0 – 1	50	84.75
2 – 3	6	10.17
4 – 5	2	3.39
6 – 7	1	1.69
Treatment type		
Curative	48	81.36
Palliative	6	10.17
Curative and palliative	5	8.47
Current treatment		
Chemotherapy	30	50.85
Radiotherapy	4	6.78
Surgery	11	18.64
Symptom control	13	22.03
Chemotherapy and radiotherapy	1	1.69

Source: Carmo 2024[13]

caregivers scores. Therefore, these scores proved independent of symptom control status.

Interrater reliability assessment

The ICC test evaluated agreement between scores from Pediatric Nurses and Relatives/Caregivers assessments, yielding a value of 0.86[16], which indicates good agreement.

Regarding comparisons between independent variables and child/adolescent assessments by Pediatric Nurses and Relatives/Caregivers, based on PPSC scores, the null hypothesis of normal distribution was rejected ($p<0.50$), leading to adoption of the non-parametric Mann-Whitney test.

Statistical significance thus identified among children and adolescents with controlled symptoms. In pediatric nurses' assessment, the median score[3] exceeded that of relatives/caregivers[1]. However, for children and adolescents without controlled symptoms, PPSC scores proved similar between raters.

As for diagnoses, no statistical significance emerged. Thus, scores for children and adolescents with solid tumors and hematologic tumors proved similar between raters.

Concerning treatment types, no statistical significance appeared between them. Therefore, scores, when compared between palliative care and curative treatments, proved similar between raters. Statistical significance also absent between current treatments, leading to conclusion that PPSC scale scores, when compared across chemotherapy, radiotherapy, surgical, and symptom control treatments, proved similar between the two raters.

DISCUSSION

Age and gender variables received no examination in PPSC development studies[10,11]. However, Mulhern et al. studies[12] analyzed these variables and found no significant influences on PPSC scores. This study, however, revealed that ages between 6 and 16 years showed tendency toward higher mean PPSC scores in pediatric nurses' assessments compared to those under 1 year. Gender showed no significant differences.

Inference suggests that since the PPSC scale lacks age range separation, pediatric nurses assessing children and adolescents must consider growth and development according to age, as functionality may undergo undervaluation if infants receive intuitive comparison with higher age ranges, as prior studies warned[10,11].

Yet, a study with children diagnosed with leukemia, aged 3 to 6 years, regardless of treatment phase, showed global functionality delay or significantly inferior performance compared to same-age children without cancer. Greatest delay observed in mobility, requiring greater assistance[5].

That study further indicates that functional ability decline likely stems from adverse effects brought by disease and treatment, such as tiredness and fatigue, which impair children's participation in activities. This finding alerts to specific intervention needs for that age range[5].

This study found that children and adolescents in exclusive palliative care or curative care integrated with palliative showed tendency toward higher PPSC scale scores, suggesting greater functionality. Such data align with international literature, which consistently associates better prior care planning with improved quality of life and reduced unpleasant symptoms[19].

Corroborating this study, research compared children and adolescents in different chemotherapeutic treatment phases with healthy children and adolescents, noting physical performance worsening in those receiving treatment and concluding that these functional deficits may persist for years after treatment[5].

Pediatric palliative care constitutes assistance provided to children and adolescents with chronic and/or life-threatening disease, initiated at diagnosis regardless of underlying disease treatment. Defined in 1998, it requires multidisciplinary team involvement to address biopsychosocial and spiritual needs of the child and/or adolescent and family, aiming for adequate symptom control and quality of life promotion[20].

However, in Brazil, pediatric palliative care remains absent from national reality, covering only 40.3% of services with such qualification. Data from 2019 indicate that most pediatric care concentrates in the Southeast region, particularly São Paulo state[21].

Table 2 – Association of independent variables with PPSC scores from Pediatric Nurses and Relatives/Caregivers assessments. Rio de Janeiro, Brazil, 2021.

Dependent variable - PPSC scores		B	Robust standard error	t	p value*	95% confidence interval for B		Tendency
						Lower limit	Upper limit	
Pediatric nurses	Child age range							
	0 a 1	0	-	-	-	-	-	-
	2 a 5	-0.127	0.412	-0.310	0.759	-0.954	0.700	Stable
	6 a10	1.948	0.640	3.040	0.004	0.664	3.232	Increase
	11 a 16	2.061	0.584	3.530	0.001	0.889	3.232	Increase
	Treatment types							
	Curative	0	-	-	-	-	-	-
	Palliative	2.521	1.247	2.020	0.048	0.018	5.024	Increase
	Curative and palliative	2.104	0.746	2.820	0.007	0.608	3.601	Increase
	Relative/Caregiver educational attainment							
	Incomplete elementary education	0	-	-	-	-	-	-
	Complete elementary education	2.916	1.386	2.100	0.040	0.135	5.697	Increase
	Incomplete high School	1.178	1.097	1.070	0.288	-1.024	3.379	Stable
	Complete high school	2.561	0.651	3.930	< 0.001	1.255	3.868	Increase
	Incomplete higher education	2.400	1.306	1.840	0.072	-0.220	5.020	Stable
	Complete higher education	3.900	0.536	7.280	< 0.001	2.825	4.975	Increase

* Multiple linear regression with backward selection method; OR - Odds Ratio; 0 - reference category; significant if p<0,050
Variables entered in initial model: Child age range, Gender, Diagnosis, Treatment type, Current treatment, controlled symptoms. Relative/Caregiver educational attainment

From total 77 services existing in Brazil, only 05 reside in Rio de Janeiro, study setting. Even so, data require deepening regarding service quality, as professional qualification and exclusive focus on pediatric palliative care remain unknown[21].

Higher relatives/caregivers educational attainment levels were associated with mean increases in PPSC scale scores. This association suggests that companions with greater educational attainment assigned higher functionality scores and, possibly, scores more aligned with pediatric nurses' assessments, given observed good agreement between raters (ICC = 0.86)[16].

This study corroborates prior research[10-13] highlighting positive PPSC scale aspects such as practicality, brevity, and suitability for functionality assessment through physical dimension evaluation in children/adolescents. These features favor safe, standardized application by parents and facilitate communication of assessment results with medical teams.

Even while confirming parents as good PPSC raters, this study observed need for prior relative/caregiver orientation to apply the PPSC scale, aiming to prevent functionality undervaluation due to absent activities/play at assessment moment.

In this regard, Sousa et al.[22] indicate that when properly oriented and involved, parents can play valuable role in symptom and emotional needs assessment for their children, contributing to health team treatment processes.

In contrast, Mulhern et al. study[12] found parents as good raters of children activities/play using PPSC without prior orientation need, corroborating Lansky et al.[10,11].

As negative PPSC scale aspects, this study observed that generalist, similar descriptions in score classifications may confuse both relatives/caregivers and pediatric nurses, requiring detailed exemplification of scores to distinguish similar ones, such as 70 and 40 scores on PPSC scale.

Associations with diagnosis and current treatments (surgery, chemotherapy, radiotherapy, and symptom control) showed no significant influences on pediatric nurses and relative/caregiver assessment scores, despite prior studies noting such influences[11,12].

However, uncontrolled symptoms showed higher median scores than controlled symptoms, contrary to adopted hypothesis. Need emerges for more robust studies with significant samples to compare children/adolescents with or without symptoms, controlled or not, to verify functionality influence.

Need exists to apply PPSC scale in significant sample of children/adolescents at other care levels, such as outpatient and home care, to deepen psychometric tests. Limitation of this study lies in application only in pediatric inpatient units and emergencies, without comparisons between sectors due to nonsignificant emergency sample.

Another important limitation involves absence of cross-culturally adapted PPSC scale data published for statistical comparisons.

PPSC scale limitation resides in possessing only one dimension (physical)[12]. Failure to include at least social dimension compromises functionality assessment regarding extra-hospital and home activities/play, such as school attendance, also limiting application of more robust construct validity tests.

PPSC scale validation and reliability verification provide nursing with valid, reliable instrument to assess functionality in children and adolescents with cancer, favoring individualized interventions and strengthening evidence-based care. Applicability by relatives expands their participation in care, promoting child, adolescent, and family-centered practice.

In education, this study supports nurse training by encouraging validated instrument use and alerting to functionality assessment importance during inpatient stay, outlining therapeutic care such as play, aiming for quality of life enhancement.

CONCLUSÕES

PPSC scale assesses child and adolescent functionality and proves reliable. Relatives/caregivers and pediatric nurses can apply it, provided prior training occurs. Brevity and simplicity render it suitable for parent assessment, as long as they serve as primary caregivers.

However, PPSC scale lacks age range division, requiring pediatric nurses to understand normal child and adolescent growth and development to avoid functionality underestimation.

PPSC scale requires application in consistent sample to assess sensitivity regarding possible changes in treatment type and symptom presence, as well as expansion to other care levels, such as outpatient clinics and home care.

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