

ORIGINAL RESEARCH

TEST-RETEST RELIABILITY OF THE CLOSED KINETIC CHAIN UPPER EXTREMITY STABILITY TEST (CKCUEST) IN ADOLESCENTS

RELIABILITY OF CKCUEST IN ADOLESCENTS

Valéria M.A. de Oliveira^{1,2,3}Ana C.R. Pitangui^{1,2}Vinícius Y.S. Nascimento¹Hítalo A. da Silva^{1,2}Muana H.P. dos Passos^{1,2}Rodrigo C. de Araújo^{1,2,3}

ABSTRACT

Background: The Closed Kinetic Chain Upper Extremity Stability Test (CKCUEST) has been proposed as an option to assess upper limb function and stability; however, there are few studies that support the use of this test in adolescents.

Purpose: The purpose of the present study was to investigate the intersession reliability and agreement of three CKCUEST scores in adolescents and establish clinimetric values for this test.

Study Design: Test-retest reliability

Methods: Twenty-five healthy adolescents of both sexes were evaluated. The subjects performed two CKCUEST with an interval of one week between the tests. An intraclass correlation coefficient (ICC_{3,3}) two-way mixed model with a 95% interval of confidence was utilized to determine intersession reliability. A Bland-Altman graph was plotted to analyze the agreement between assessments. The presence of systematic error was evaluated by a one-sample t test. The difference between the evaluation and reevaluation was observed using a paired-sample t test. The level of significance was set at 0.05. Standard error of measurements and minimum detectable changes were calculated.

Results: The intersession reliability of the average touches score, normalized score, and power score were 0.68, 0.68 and 0.87, the standard error of measurement were 2.17, 1.35 and 6.49, and the minimal detectable change was 6.01, 3.74 and 17.98, respectively. The presence of systematic error ($p < 0.014$), the significant difference between the measurements ($p < 0.05$), and the analysis of the Bland-Altman graph infer that CKCUEST is a discordant test with moderate to excellent reliability when used with adolescents.

Conclusion: The CKCUEST is a measurement with moderate to excellent reliability for adolescents.

Keywords: Reproducibility of results; adolescent; upper extremity

Level of Evidence: 2b

CORRESPONDING AUTHOR

Valéria Mayaly Alves de Oliveira

University of Pernambuco, campus

Petrolina.

BR 203 Km 2 S/N, Vila Eduardo

CEP 56300-000 - Petrolina, PE - Brazil

Telephone: + 55 (87) 9 9952-4987

E-mail: valeria.mayaly@gmail.com

¹ Department of Physical Therapy, University of Pernambuco, Petrolina, PE - Brasil

² Postgraduate Program in Hebiatric, University of Pernambuco, Recife, PE - Brazil

³ Associate Postgraduated Program in Physical Education, University of Pernambuco / Federal University of Paraíba, PE/PB, Brazil