

Appraisal

Clinimetrics: Photograph Series of Daily Activities – Short Electronic Version (PHODA-SeV)

Summary

The Photograph Series of Daily Activities (PHODA) is an electronic tool that uses photographs to measure perceived harmfulness of daily activities in patients with low back pain. The photographs represent a set of specific movements in daily activities (eg, lifting, bending, turning, reaching, falling, intermittent load-unexpected movement, and long-lasting load instance or sitting with limited dynamics) across four domains: activities of daily living, housekeeping, work, and sports and leisure time. The original version of the PHODA was developed in 1999 and contained 100 photographs.¹ A few adapted versions have subsequently been developed, such as the PHODA short-electronic version (PHODA-SeV) with 40 photographs for adults.^{2–4} The PHODA-SeV has the benefit of being easy and quick to administer (ie, less than 10 minutes) and is freely available to download on the following website: <https://ppw.kuleuven.be/ogp/software/phodasev-en.zip>. Each photograph of the PHODA-SeV is scored using a vertical 100-point visual analogue scale from 0 (not harmful at all) to 100 (extremely harmful). The total score is obtained by calculating the average score summing the ratings for each photograph divided by the total number of photographs.

Measurement properties: Some measurement properties of the PHODA-SeV have been investigated in adults with chronic low back pain.^{4,5} With regards to the content validity, its relevance was investigated in a previous study.⁴ Other aspects of content validity (comprehensiveness and comprehensibility) have not been evaluated. The relevance of the PHODA-SeV seems to be appropriate since the

photographs were selected from the original version, which was developed using recognisable daily activities and the opinion of several experts on chronic low back pain.⁴ The PHODA-SeV has also shown high internal consistency (Cronbach alpha > 0.75) and excellent test-retest reliability (ICC > 0.90).^{4,5} The standard error of measurement and smallest detectable change were of 5.46 and 15.13 points on a scale from 0 to 100, respectively, indicating an adequate measurement error.⁵ In addition, exploratory factor analysis indicated one factor structure, which indicated appropriate structural validity (ie, a factor that explained > 50% of the variance).⁴ With regards to hypothesis testing, the PHODA-SeV showed small to fair correlations ($r < 0.4$) with fear of movement/injury/reinjury, pain catastrophising, functional disability, and current pain intensity.^{4,5} One of these studies confirmed an a priori formulated hypothesis, as the PHODA-SeV showed a fair correlation with one measure of pain-related fear.⁵ There was no evidence of ceiling and floor effects in one study investigating its interpretability.⁵

The responsiveness of the PHODA-SeV is conflicting. The PHODA-SeV was able to detect changes after a physiotherapy program⁵ and an a priori formulated hypothesis related to the changes in the instrument over time was confirmed. Nevertheless, there was no relationship between the changes in the PHODA-SeV and the changes in fear of re-injury and fear-avoidance beliefs after physiotherapy. Therefore, the responsiveness after a specific treatment for changing the patient's perception of harmful activities remains unknown.

Commentary

The PHODA-SeV is a reliable tool, with appropriate internal consistency, measurement error and construct validity, which were assessed with hypothesis testing to measure perceived harmfulness of activities. In addition, this tool is able to detect changes over time after a physiotherapy program. However, some measurement properties still need further investigation. Some aspects of the content validity still need to be refined, such as the comprehensiveness and comprehensibility for patients and clinicians. In addition, the structural validity of the instrument should be investigated using confirmatory factor analysis. Finally, responsiveness of this tool should be determined after a course of graded exposure program using an a priori formulated hypotheses. The identification of the perceived harmful activities with the PHODA-SeV can assist clinicians to target and monitor activities that patients perceive as harmful, encouraging them to gradually face them in order to restore function.⁶

Crystian B Oliveira^{a,b} and Rafael Z Pinto^c

^aDepartment of Physiotherapy, Faculty of Science and Technology, Sao Paulo State University (UNESP), Presidente Prudente, Sao Paulo, Brazil

^bUniversity of Western São Paulo (Unoeste), Presidente Prudente, Sao Paulo, Brazil

^cDepartment of Physical Therapy, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brazil

References

1. Kugler K, et al. *The Photograph series of Daily Activities (PHODA)*. 1999.
2. Verbunt JA, et al. *Eur J Pain*. 2015;19:695–705.
3. Simons LE, et al. *Pain*. 2017;158:912–921.
4. Leeuw M, et al. *J Pain*. 2007;8:840–849.
5. Oliveira CB, et al. *J Orthop Sports Phys Ther*. 2018;48:719–727.
6. George SZ, et al. *J Orthop Sports Phys Ther*. 2009;39:496–505.