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Letter to the Editor

Letter to the editor about the article "Development, reliability, and validity of the mobility assessment scale in hospitalized patients (HMob)"

Dear Editor:

We have read with great interest the article "Development, reliability, and validity of the mobility assessment scale in hospitalized patients (HMob)" by Rosende Ramos I et al.[1] We recognize the importance and relevance of the proposal of innovative and effective tools to evaluate functional mobility in hospitalized patients to improve quality of care, plan interventions, and promote the functional recovery of patients; however, we consider it appropriate to reflect on the methods described, considering that the processes related to the clinimetric properties of health instruments have become an important area for assessment, utility, and applications in clinical practice.[2,3]

Regarding content validity, a detailed description of the process is not provided in the article. Although it mentions that "…content validity was evaluated through the qualitative evaluation of a committee of experts composed of four physical therapists (three doctors and one specialist)", the description of the methods does not clearly reflect the judgment of experts, nor the decisions made based on the Content Validity Index (CVI) and the qualitative comments of the experts.

This validation model is characterized by evaluating the different items based on their relevance and representativeness.[4] It is important to establish consultation rounds with experts through some methodology such as Delphi,[5] or individual aggregates method[6]; to assess whether the instrument explores all categories (dimensions) or domains relevant to the construct.[7]

Construct validity refers to the instrument's ability to accurately and adequately measure the theoretical construct[3,7] and in this regard, we consider that the article should have included a clear definition of the categories to be measured, the justification of each item, and the theory that supports the construct evaluated.

The authors analyzed the concurrent criterion validity, which assesses whether the results obtained with the instrument are in agreement with those obtained by another already validated measurement tool that measures the same construct. Pearson correlation analysis was used for the HMob scores and those obtained in the Functional Status Score for the Intensive Care Unit (FSS-ICU), which is a functional assessment instrument designed to measure functionality and the level of independence in basic activities in patients who have been in the intensive care unit and with the Functional Independence Measure (FIM), for the motor domain, which assesses functional independence. It is important to consider that the FSS-ICU instrument was designed to measure physical function in the intensive care unit[8] and the FIM to measure functionality during hospitalization.[9] Considering the lack of a "gold standard" that evaluates functional mobility in hospitalized patients, it is possible to use several instruments or criteria that measure aspects related or similar to the construct of interest; however, the results should be interpreted with caution.[10]

The article shows the internal consistency through Cronbach's Alpha of approximately 0.95, without establishing the correspondence of the assumptions (the items measure the same trait or latent variable, the non-correlation of the errors because their independence is assumed, the unidimensionality and continuous measurement),[11,12] therefore, for future studies, it is recommended to include the value of the confidence interval to assess the accuracy of the estimate and allow for secondary analysis. Furthermore, given the nature of the construct and assumptions involved, it is suggested to consider McDonald's omega[13] because it presents lesser demands in this regard.

Finally, it is important that the scales are specific to the setting where they are applied. We consider the HMob to be a valuable scale to apply to the patient who is in hospital, however, for the patient in critical condition, there are some activities that could be risky and others could be out of reach. Therefore, the relevance of applying the HMob scale should be carefully evaluated in critically ill patients.[14]

For future studies on psychometric properties of health instruments, it is important to provide a detailed description of the methods used; this ensures the validity of the scale and its safe use in clinical and research settings.

Declaration of competing interest

The authors declare no competing interest.

References

1. Ramos IR, Santos JS, Pires dos Santos MC, da Silva DF, Alves IGN, Neto MG, et al. Development, reliability, and validity of the mobility assessment scale in hospitalized patients (HMob). *Braz J Phys Ther*. 2024 Mar;28(2), 101047.
2. Manterola C, Grande L, Otzen T, García N, Salazar P, Quiroz G. Confiabilidad, precisión o reproducibilidad de las mediciones. Métodos de valoración, utilidad y aplicaciones en la práctica clínica. *Revista chilena de infectología*. 2018;35(6):680–688.
3. Devet H, Terwee C, Bouter L. Current challenges in clinimetrics. *J Clin Epidemiol*. 2003 Dec;56(12):1137–1141.
4. Bernal-García MI, Salamanca Jiménez DR, Perez Gutiérrez N, Quemba Mesa MP. Validez de contenido por juicio de expertos de un instrumento para medir percepciones físico-emocionales en la práctica de disección anatómica. *Educación Médica*. 2020 Nov;21(6):349–356.
5. Cruz Ramírez M, Rúa Vásquez JA. Surgimiento y desarrollo del método Delphi: una perspectiva cienciométrica. *Biblios J Librarian Inform Sci*. 2018 Jul 2;(71):90–107.
6. Yadira Corral. VALIDEZ y CONFIABILIDAD DE LOS INSTRUMENTOS DE INVESTIGACIÓN PARA LA RECOLECCIÓN DE DATOS autor (a).
7. Carlos Gomez Restrepo A.D.J.R.M. Epidemiología clínica: investigación clínica aplicada. segunda edición ed. segunda. editorial médica panamericana, editor. Bogotá; 2015. 639 p.
8. Huang M, Chan KS, Zanni JM, Parry SM, Neto SCGB, Neto JAA, et al. Functional status score for the icu: an international clinimetric analysis of validity, responsiveness, and minimal important difference. *Crit Care Med*. 2016 Dec;44(12):e1155–e1164.

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9. Kidd D, Stewart G, Baldry J, Johnson J, Rossiter D, Petruckevitch A, et al. The Functional Independence Measure: a comparative validity and reliability study. *Disabil Rehabil*. 1995 Jan 28;17(1):10–14.
10. Ana Carvajal Valcárcel C. revisiones ¿Cómo validar un instrumento de medida de la salud? *An Sist Sanit Navar*. 2011;34.
11. Oviedo HC, Campo-Arias A. Aproximación al uso del coeficiente alfa de Cronbach. *rev.colomb.psiquiatr*. 2005;34(4):572–580.
12. Tavakol M, Dennick R. Making sense of Cronbach's alpha. *Int J Med Educ*. 2011 Jun 27;2:53–55.
13. Roco-Videla Á., Aguilera-Eguía R.A., Olguín-Barraza M. Advantages of using McDonald's omega coefficient over Cronbach's alpha. Nutr Hosp. 2023.
14. Mokkink Cecilia A.C. Prinsen Donald L. Patrick Jordi Alonso Lex M. Bouter L.B., Mokkink C.L. COSMIN study design checklist for patient-reported outcome measurement instruments [Internet]. 2019 Jul. Available from: www.cosmin.nl.

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