International Centre for Allied Health Evidence

University of South Australia

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*i*CAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club location Hampstead Rehabilitation

JC Facilitator Judith Hocking

JC Discipline Multi-D

Question

N/A

Review Question/PICO/PACO

P: N/A

I: N/A

C: N/A

O: N/A

Outcome Measure/Assessment Tool

- Braga-Neto P, Godeiro-Junior C, Dutra LA, Pedroso JL, Barsottini OG. Translation and validation into Brazilian version of the Scale of the Assessment and Rating of Ataxia (SARA). Arquivos de neuro-psiquiatria. 2010 Apr;68(2):228-30.
- Schmitz-Hübsch T, Du Montcel ST, Baliko L, Berciano J, Boesch S, Depondt C, Giunti P, Globas C, Infante J, Kang JS, Kremer B. Scale for the assessment and rating of ataxia: development of a new clinical scale. Neurology. 2006 Jun 13;66(11):1717-20.
- Schmitz-Hübsch T, Fimmers R, Rakowicz M, Rola R, Zdzienicka E, Fancellu R, Mariotti C, Linnemann C, Schöls L, Timmann D, Filla A. Responsiveness of different rating instruments in spinocerebellar ataxia patients. Neurology. 2010 Feb 23;74(8):678-84.
- Kim BR, Lim JH, Lee SA, Park S, Koh SE, Lee IS, Jung H, Lee J. Usefulness of the Scale for the Assessment and Rating of Ataxia (SARA) in ataxic stroke patients. Annals of rehabilitation medicine. 2011 Dec 1;35(6):772-80.
- Saute JA, Donis KC, Serrano-Munuera C, Genis D, Ramirez LT, Mazzetti P, Pérez LV, Latorre P, Sequeiros J, Matilla-Dueñas A, Jardim LB. Ataxia rating scales—psychometric profiles, natural history and their application in clinical trials. The Cerebellum. 2012 Jun 1;11(2):488-504.
- Bürk K, Mälzig U, Wolf S, Heck S, Dimitriadis K, Schmitz-Hübsch T, Hering S, Lindig TM, Haug V, Timmann D, Degen I. Comparison of three clinical rating scales in Friedreich ataxia (FRDA). Movement Disorders. 2009 Sep 15;24(12):1779-84.
- Weyer A, Abele M, Schmitz-Hübsch T, Schoch B, Frings M, Timmann D, Klockgether T. Reliability and validity of the scale for the assessment and rating of ataxia: a study in 64 ataxia patients. Movement disorders: official journal of the Movement Disorder Society. 2007 Aug 15;22(11):1633-7.
- Tan S, Niu HX, Zhao L, Gao Y, Lu JM, Shi CH, Avinash C, Wang RH, Xu YM. Reliability and validity of the Chinese version of the Scale for Assessment and Rating of Ataxia. Chin Med J. 2013 Jun 1;126(11):2045-8.

Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the DOHSA librarian.

Article Methodology: Outcome Measure/Assessment

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CONTACTS
www.unisa.edu.au/cahe
iCAHE@unisa.edu.au
Telephone: +61 8 830 22099
Fax: +61 8 830 22853

University of South Australia
GPO Box 2471
Adelaide SA 5001
Australia

CRICOS Provider Number 00121B

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Ques No.	Yes	Can't Tell	No	Comments
PSYCHOMETRIC PROPERTIES				
				VALIDITY:
1		✓		**Face** • No studies directly examined or commented on face validity.
2		✓		**Content** • No studies directly examined or commented on Content validity.
3	✓			**Construct** • Fredreich's Ataxia (Saute et al, 2012): Excellent construct validity of SARA items with International Cooperative Ataxia Rating Scale (ICARS) (r = 0.953) • Excellent construct validity of SARA with Fredreich's Ataxia rating Scale (FARS) (r = 0.938)
4	✓			**Comparison** • Fredreich's Ataxia: (Burk et al, 2009): Compared SARA to FRDA Rating Scale (FARS), the International Cooperative Ataxia Rating Scale (ICARS). SARA was found to be significantly correlated to both the FARS (r = 0.938, P < 0.000) and ICARS (r = 0.953, P < 0.0001)
5		✓		**Sensitivity** • No studies directly examined or commented on sensitivity
6	✓			**Factor analysis** • Spinocerebella Ataxia (Schmitz-Hübsch et al, 2010): Factorial analysis revealed that the rating results were determined by a single factor. SARA ratings showed a linear relation to global assessments using a visual analogue scale, suggesting linearity of the scale ($p < 0.0001$, $r^2 = 0.98$)
				RELIABILITY:
7	✓			**inter-tester** • Spinocerebella Ataxia (Schmitz-Hübsch et al, 2010): excellent inter-rater reliability (ICC=0.98). All single items had excellent inter-rater reliability (ICC > 0.8), with exception of left heel-shin test (ICC=0.74) • Sporadic Ataxia Disorders (Weyer et al, 2007): excellent inter-rater reliability (ICC=0.98). • Chinese version of SARA (Tan et al, 2013): excellent inter-rater reliability (ICC=0.86).
8	✓			**intra-tester** • Sporadic Ataxia Disorders (Weyer et al, 2007): excellent intra-rater reliability (ICC=0.99).
9	✓			**test-retest** • Spinocerebella Ataxia (Schmitz-Hübsch et al, 2010): excellent test-retest reliability (ICC = 0.90) • Fredreich's Ataxia: (Burk et al, 2009): excellent test-retest reliability (ICC = 0.99)
10	✓			**internal consistency** • Spinocerebella Ataxia (Schmitz-Hübsch et al, 2010): excellent internal consistency (Cronbach's alpha = 0.94) • Fredreich's Ataxia: (Burk et al, 2009): excellent internal consistency (Cronbach's alpha = 0.89) • Sporadic Ataxia Disorders (Weyer et al, 2007): excellent internal consistency (Cronbach's alpha = 0.97) • Chinese version of SARA (Tan et al, 2013): adequate internal consistency (Cronbach's alpha = 0.78)

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11		✓		**Minimal Clinical Important Difference**
				• Minimal Detectable change was measured for Spinocerebella Ataxia (Schmitz-Hübsch et al, 2010)
				  ○ Individual score differences in SARA was < 3.5 ($p < 0.0001$)
				  ○ Group limits in point scores (n=171) was < 0.3
				• MCID was not clearly measured

CLINICAL UTILITY				
12	✓			**Simple instructions, short, simply worded items**
13	✓			**<20 items** *Number of items* 8 Items
14	✓			**Able to be scored manually**
15		✓		**<15 minutes administration time** *Estimated average time to administer (mins)* Healthy individuals can complete this test in roughly 7 minutes (+/- 2.5 minutes), while patients will average 14 minutes (+/- 7.5 minutes), meaning that some patients will exceed 15 minutes for administration time, while others will be less than this depending on severity of condition
16	✓			**Norms** Norms have been provided for several conditions.
17	✓			**Cut off scores** Cut-off scores have been provided for Ataxic Stroke for Gait and Performance for Daily Living (aka overall score) (Kim et al., 2011) Mild Dependence = 5.5 or lower Minimal Dependence = 10.0 or lower Moderate Dependence = 14.25 or lower Maximal Dependence = 23 or higher
18	✓			**Relevant to Australian Health System** Could be easily transferred to the Australian population
19	✓			**No cost** Scale is freely available at: http://www.ataxia-study-group.net/html/about/ataxiascales/sara/SARA.pdf
20	✓			**No registration / limitations**
	SCORES			**Psychometric: 8/11; Clinical Utility: 8/9; TOTAL: 16/20**
21				**Do you believe the results?**
22				**Can the results be applied to the local population?** **CONTEXT ASSESSMENT (please refer to attached document)** – *Infrastructure* – *Available workforce (? Need for substitute workforce?)* – *Patient characteristics* – *Training and upskilling, accreditation, recognition* – *Ready access to information sources* – *Legislative, financial & systems support* – *Health service system, referral processes and decision-makers* – *Communication* – *Best ways of presenting information to different end-users* – *Availability of relevant equipment/tool* – *Cultural acceptability of the tool* – *Others*
23				**Were all important outcomes considered?**
24				**Are the benefits worth the harms and costs?**

Journal Club to discuss

25		**What do the study findings mean to practice (i.e. clinical practice, systems or processes)?**
26		**What are your next steps?** ***ADOPT, CONTEXTUALISE, ADAPT*** **And then (e.g. evaluate clinical practice against evidence-based recommendations; organise the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.)**
27		**What is required to implement these next steps?**

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