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Clinimetrics: Single Assessment Numeric Evaluation

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Appraisal

Clinimetrics: Single Assessment Numeric Evaluation

Summary

Description: The Single Assessment Numeric Evaluation (SANE) is a single-item, global, patient-reported outcome measure.^{1–3} Patients provide a whole number response to the question ‘On a scale from 0 to 100, how would you rate your (eg, injured limb) today, with 100 being normal?’.^{1,2} It is typically used as a global rating of function, although this is not specifically stated in the question, and the definition of normality is determined by the individual patient. As the question is rated at baseline and follow-up, it can be used as a measure that captures the change in function (ie, recovery) over this period. Patients tend to define their recovery based on their basic function, pain, performance, and expectations for ‘normal’ function.¹ The construct of the SANE is similar to the Patient-Specific Functional Scale, which also reports patients’ functional change on an 11-point scale for a variety of musculoskeletal disorders.⁴ (However, the Patient-Specific Functional Scale is often administered only at follow-up, yielding a retrospective score of the change/recovery over the period from baseline to follow-up). Overall, the shortness of the SANE reduces the burden of gathering outcome data and is simpler for clinical practice use.³

Validity, responsiveness and reliability: The SANE is expressed on a scale of 0 to 100 and has been compared with other 100-point scales such as the Lysholm or Rowe.^{1–3} Regarding validity, the SANE is reported to have a correlation of 0.83 at 3 and 6 months postoperatively when compared with the International Knee Documentation Committee.⁵ The International Knee Documentation Committee is an 18-question evaluation that focuses on symptoms, activities of daily living and sports

activities of the knee. Similar to the SANE, it consists of a scale from 0 to 100, with 100 meaning no limitation with activities.^{2,5} Overall, there is minimal difference in correlation within patient groups based on age or sex for the SANE and International Knee Documentation Committee.^{1,2,5} The SANE has also been measured for internal validity by assessing the floor (< 15%) and ceiling (< 15%) effects compared with the American Shoulder and Elbow Surgeons, Western Ontario Osteoarthritis of the Shoulder, and Constant–Murley shoulder outcome scores.^{6,7}

The SANE has also displayed a similar responsiveness to the American Shoulder and Elbow Surgeons score when used for upper limb extremities, with the minimal detectable change ranging from 7 to 9%, depending on treatment.⁶ The reported minimum clinically important difference of the SANE is similar to that reported for the American Shoulder and Elbow Surgeons (11%), and averages 15% across a variety of shoulder conditions.⁶ Regarding lower extremities, the minimum clinically important difference for the SANE is consistent with that of the International Knee Documentation Committee.¹ The minimum clinically important difference for the SANE was found to be 7 for a 6-month follow-up appointment, and 19 for a 12-month follow-up appointment.⁵

When assessed amongst patients with shoulder disorders, the SANE reports good reliability (ICC = 0.76, SE 3.4) and agreement across a variety of treatment groups (rotator cuff repair, ICC = 0.85, SE 3.4; total shoulder arthroplasty, ICC = 0.72, SE 5.2; physiotherapy, ICC = 0.82, SE 2.9).^{6,7} However, reliability has yet to be evaluated for lower limb extremities.

Commentary

While the SANE is used to supplement current patient-reported outcome measures, it is not recommended to be a replacement. Similar to the Patient-Specific Functional Scale and Global Perceived Effect scale, these short patient-reported outcome measures are intended to be easy for the patient to understand, rate the aspects of recovery that are most important to them, and be used as an external criterion to test the measurement properties of other outcome measures.^{4,8} Due to its simple nature, the SANE lacks specificity as to which areas of function are limited, which lessens the clinician’s understanding of a patient’s limitations and its application within rehabilitation treatment plans.^{1,8} However, the SANE can alert clinicians about a patient’s overall perceptions, and when used in combination with other tools can help to identify variance between these global perceptions and specific measured impairments.^{1,4,6,8}

Overall, the SANE has proven to be a simplified means for collecting outcome data in patient populations of the ankle, knee and shoulder.^{1–4,6–8} Therefore, studies have demonstrated the SANE to be a reliable reflection of patients’ perceptions regarding their recovery.^{9–11} However, further validation is required on the psychometric properties of the SANE across other body areas, diagnoses and therapeutic interventions. Further validation is also required to evaluate the concurrent validity between the SANE, Patient-Specific Functional Scale, and Global Perceived Effect scale, as they measure similar constructs.

Provenance: Invited. Not peer reviewed.

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