

Validation of the Activities Assessment Scale in Women undergoing Pelvic Reconstructive Surgery

Objective: Improvement in day-to-day functioning is an important outcome after surgery. The Activities Assessment Scale (AAS) is a 13-item, valid, reliable and responsive postoperative functional activity scale originally validated in men undergoing hernia surgery.(1) The objective of this study is to evaluate the validity, reliability and responsiveness of the AAS in women undergoing vaginal surgery for pelvic organ prolapse and stress urinary incontinence.

Methods: Study participants included 169 consecutive women enrolled in the OPTIMAL trial, a randomized trial comparing sacrospinous ligament fixation to uterosacral vault suspension with and without perioperative pelvic floor muscle training in women with Stage 2-4 prolapse and stress urinary incontinence. All participants completed a self-administered questionnaire that included the AAS, the SF-36, and a single item rating of functional activity at baseline, and 2 weeks and 6 months after surgery. At 2 and 6 months post-op, patients compared their functional ability to that before surgery on a 5-point Likert scale (“much worse” to “much better”). Internal reliability of the AAS was evaluated on baseline data using Cronbach’s alpha. Construct validity and responsiveness were examined in statistical analyses of cross-sectional and longitudinal data using Pearson’s correlation coefficient and t-tests. The AAS is scored from 0 to 100 with higher scores indicating better functional ability.

Results: 163 of 169 study participants (96%) completed the AAS and SF-36 at baseline and 2 weeks and 145 (86%) completed both questionnaires at 6 months. At baseline, the mean±SD AAS was 87± 17.3 (range 25 to 100). Functional activity declined from baseline to 2 weeks post-op (mean change -4.5; 95% CI -7.6 to -1.42) but significantly improved above baseline levels at 6 months (mean change +10.9; 95% CI 7.8 to 14.0). Internal reliability of the AAS was excellent (Cronbach’s Alpha = .93). Convergent validity was demonstrated by a correlation of .59-.60 between the AAS and the SF-36 Physical Functioning Scale (p<.0001 for all time points) while divergent validity was shown with low correlations between SPS and other SF-36 subscales. Patients who reported a decline in functional activity from baseline to 2 weeks showed an effect size of -1.49 in the pre- to post-operative change of the AAS score. Similarly, subjects who demonstrated improvement in the SF-36 Physical Functioning scale from 2 weeks to 6 months had an effect size of .71 in the change of the AAS score.

Conclusions: The AAS is a valid, reliable and clinically responsive measure that can be used to evaluate physical functioning in women after pelvic reconstructive surgery.

1. McCarthy M, Jr., Jonasson O, Chang CH, Pickard AS, Giobbie-Hurder A, Gibbs J, et al. Assessment of patient functional status after surgery. *J Am Coll Surg* 2005;201(2):171-8.