
Editorial

Measuring Quality of Recovery

There is growing interest in patient-centred outcome measures in anaesthesia research.¹⁻⁴ Such measures have traditionally focussed on quality of life and patient satisfaction, but for patients undergoing surgery there has been a recent focus on the patient's subjective experience of their overall recovery,^{2,5} and disability-free survival.⁶

My group have developed a range of quality of recovery (QoR) scores which provide a patient-centred global measure of overall health status after surgery and anaesthesia. The first was the 9-item QoR Score,^{7,8} the next was a more comprehensive 40-item QoR-40 scale,^{1,9} and the most recent being the 15-item QoR-15 scale.¹⁰ The QoR scales have been used in over 100 perioperative studies to date, been translated into more than 20 languages, and undergone repeat and external validation, confirming their excellent reliability and responsiveness in the postoperative setting.^{1,11-25} Each of the QoR scales offers very good evaluative and discriminatory ability for quantifying changes in postoperative health status,²⁶⁻²⁸ and so are ideal measures of patient-reported QoR. Both the QoR Score and QoR-15 are recommended endpoints for perioperative studies aiming to measure patient comfort and wellbeing after surgery.⁴

The original validation studies for the QoR scales were done in Australia, and although a multicultural country and the use of study populations that included patients from non-English speaking backgrounds, results may not translate to other settings. It is not hard to envisage cultural, language, and other social factors that may modify how people experience recovery after surgery, and how they might respond to questions regarding their recovery. Many such studies have now been done,^{13-17,19-25} but not in Africa. It is in this setting that Sikhakhane and colleagues' study of an isiZulu translation of the QoR-15 scale in this issue of the journal is to be commended.²⁹

Sikhakhane and colleagues chose a sample size that was appropriate, and included a broad range of study participants undergoing many types of surgery, using either general or regional anaesthesia, to evaluate their translation. Another strength of their study was to randomise the order of presentation of the English and isiZulu versions of the QoR-15. The translation process was done by first language isiZulu speaking individuals, back-translation by first language English speakers, and finally consensus on a final approved version of the translated QoR-15 scale. This is consistent with the International Quality of Life Assessment project.³⁰

The conduct of the study was also excellent. They report very high recruitment (94%) and successful completion (96%) rates of the QoR-15 questionnaire. They confirmed an average time of completion of about three minutes. The patient evaluations were done on the first postoperative day, an ideal time to identify the full range of postoperative recovery profiles – measurement scales are best evaluated across such a broad range of health status in order to properly evaluate their evaluative utility.

Whilst the statistical methods were according to recommended standards,²⁶ the authors chose to use the weighted kappa statistic to measure agreement. The kappa statistic is used for ordinal or categorical scales, but one of the strengths of the QoR-15 is its numerical-ratio scale properties. The better option would have been to use the intraclass correlation.³¹ As has been done previously, including by my group,³² the authors chose to compare men and women in a belief the latter

would have a poorer recovery (e.g. more nausea and vomiting, more pain, perhaps poorer physical functioning). This would be a valid test if both men and women were of similar age and preoperative health, and underwent comparable types and extents of surgery, but this is not often the case. Any imbalance might be minimised by statistical adjustment, but ideally this is best done with matching.

The availability of an isiZulu-translation of the QoR scale, along with other translations,^{13-17,19-25} offers greater opportunities for multicentre trials and specific cross-cultural clinical studies. The world is a big place and too often borders and nationalities hinder mutual understanding and respect. The quality and outcomes of healthcare delivery, in settings with marked differences in case mix and resources, can be better evaluated when we're using standardised assessment tools. International multicentre trials become a truly shared endeavour. The work of Sikhakhane and colleagues in this issue of the journal is a big step in the right direction.

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