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BJR

EDITORIAL

It is merely subjective opinion that patient-reported outcome measures are not objective tools

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The British Editorial Society of Bone and Joint Surgery, London, United Kingdom

The last decade has seen a paradigm shift in the measurement of clinical outcomes, with an increasing focus placed on the patients' perspective to compliment and augment the clinicians' report, imaging and laboratory results.

Patient-Reported Outcome Measures (PROMs) can be simply described as the patients' report of the status of their health. This can range from an informal comment as to their symptoms to the completion of a validated questionnaire, which through an algorithm, allows an objective quantification of the response. The distinction between 'an informal comment' and 'validated questionnaire' is critically important. A number of well-validated self-reported questionnaires are available to assess a patient's general and joint-specific health status. These validated PROMs are central to orthopaedic research, clinical practice, quality control and bench marking.[1-9]

Validated PROMs, as with other routinely applied clinical tests, are designed to provide robust and meaningful measurements. For outcome questionnaires, this is determined by the three main psychometric properties: objectivity, reliability and validity.[10-12] Objectivity implies that the result of a measurement should not be influenced by the person taking that measurement. For questionnaires objectivity is usually high, as these are completed independently by the patient him/herself. Reliability is generally evaluated by demonstrating test-retest reproducibility. Validity (content, construct and criterion), tests the degree to which a PROM actually measures what it proposes to measure. When considering longitudinal measurements, the responsiveness of a PROM is also important, i.e. the ability to detect changes over time.[13]

These generic properties are applicable, and central, to any measurement tool that doctors base their clinical decisions on.[14] Many clinicians though are less trusting of 'subjective PROMs' than they are of 'objective measurements' such as angles determined on a plain radiograph, a fracture classification, or a physical performance test.[15-22] They prefer what they perceive to be a 'hard' or 'real' measurement over some 'psychologically overlaid opinion of a patient who may be grumpy after a bad night'. This belief though is not in line with the evidence.

Hahn et al[23] have analysed the degree of error in commonly performed clinicians' measurements and compared it with the degree of error inherent to various validated PROMs. Interestingly, the PROMs compare favourably to the measures that clinicians trust in. For example, the test-retest correlations for heart rate ($r = 0.68$) or diastolic blood pressure ($r = 0.63$) are modest, whereas the physical functioning scale of the SF-36 shows very high agreement ($r = 0.93$). The literature as a whole reports a range of measurement characteristics for both well-established clinical tools and PROMs, examples of more and less robust measures can be found for each.

The 'distrust' of PROMs may be explained by the relative newness of these metrics. As with all evaluations, one must ensure suitable tool selection, application and interpretation. For constructs such as pain or satisfaction, the patient's perception is the only source of information and therefore PROMs should be considered the gold-standard evaluation. The picture is more complicated for constructs such as physical function, where this can be assessed through both PROMs and direct observation. Correlating the time taken to complete a specific test of physical function (e.g. the timed-get-up-and-go) with the results of a physical function questionnaire may not find particularly robust agreement. This should not be surprising as the questionnaire does not try to measure the time taken to complete a task,

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doi: 10.1302/2046-3758.612.BJR-2017-0347

Bone Joint Res 2017;6:665–666.

but instead asks about the patients' perception of the difficulty of completing the task. As such we would expect to see a similar direction of change in the respective scores when measuring the effect of an intervention, but to expect the same result misunderstands that PROMs capture a different aspect of outcome than a performance test does.[24] Similarly, it is quite reasonable for a patient to be satisfied with the outcome of surgery but report a low score on a validated PROM.[25,26] This does not suggest that the PROM is 'wrong', but that the construct (theme of questions) evaluated by that PROM is not particularly associated with the criteria that determines the patient's report of satisfaction.

Hopefully time and familiarity will enhance the selection, application and interpretation of PROMs. The validated patient outcome questionnaire is not a 'subjective' opinion but an 'objective' evaluation that quantifies the patient's pain, function or severity of disease as perceived by the patient. Assuming the PROM has been well constructed, it provides a robust measurement and therefore should be recognised as an objective tool.

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Funding Statement
- None declared

Author Contribution
- D. F. Hamilton: Writing the paper.
- J. M. Giesinger: Writing the paper.
- K. Giesinger: Writing the paper.

Conflicts of Interest Statement
- None declared