How Should Patient-Reported Change Be Measured?

Fischer D, Stewart AL, Bloch DA, Lorig K, Laurent D, Holman H. Capturing the patient's view of change as a clinical outcome measure. JAMA 1999;282:1157–62.

Study Overview

Objective. To compare 2 patient self-assessment methods that measure changes in patient pain and disability: the serial method, which involves assessments at 2 points in time (commonly used in clinical trials), and the retrospective perspective method, which is a 1-time patient retrospective assessment of change over time (commonly used in clinical practice).

Design. Longitudinal survey of patients.

Setting and participants. 202 patients with chronic arthritis in 1994 and 1995 starting a new therapy consisting of a self-management educational program (n = 140), therapy with prednisone or methotrexate (n = 34), or arthroplasty of the knee or hip (n = 28). Patients participated in a community health education program or received university medical and/or orthopedic services.

Main outcome measures. Concordance between serial (0- to 10-cm visual analog scale for pain and Health Assessment Questionnaire [1] for disability) and retrospective (7-point Likert scale) measures, sensitivities of these measures, and their correlation with patients' satisfaction with the change (7-point Likert scale). Patients were assessed at baseline (before intervention of new treatment) and at 6 weeks and 4 months after baseline.

Main results. Retrospective measures were nearly twice as sensitive to change as serial measures for all 3 patient groups and correlated more strongly with patients' satisfaction with change. When change was small (education group), serial measures correlated poorly with retrospective assessments (r = 0.13 to 0.21 at 6 weeks). With greater change, correlations improved (r = 0.45 to 0.71 at 6 weeks). Average agreement between all pairs of assessments was 29%. Significant lack of concordance was confirmed in all 12 comparisons by McNemar tests (P = 0.02 to < 0.001) and by t tests (P = 0.03 to < 0.001).

Conclusion

The serial and retrospective methods for measuring health status change did not produce concordant results.

Commentary

Assessing clinical outcomes includes not only using biologic markers but also measuring patients' functional status and perceived quality of life [2,3]. Assessment instruments must be reliable, valid, and sensitive to change, and the identified change must be specific and relevant to the patient and/or the diagnosis [4]. Self-reported measurements of pain and disability are used to assess the value of therapeutic regimens, so it is important to examine which method of measurement is more effective. Unfortunately, this study does not show whether the serial or retrospective method is more useful. The authors admit that they do not know which method is more accurate or even whether they are measuring the same thing. Discordant measures between the 2 methods could represent measurement error or different patient perceptions of what a given change means. In addition, a number of factors limit the authors' conclusion, including possible bias in the questioning format, an inability to precisely compare the 2 methods because different scales were used, and possible recall bias.

Applications for Clinical Practice

Understanding and acknowledging a patient's view of his or her health status may lead to greater patient satisfaction with care, compliance, and continuation of care [5,6]. Because of the uncertainty regarding the accuracy of the retrospective and serial methods, clinicians should use methods in practice to ensure a comprehensive patient self-assessment.

References

1. Ramey DR, Raynauld JP, Fries JF. The health assessment questionnaire 1992: status and review. Arthritis Care Res 1992;5:119–29.