

How to Use Outcomes Questionnaires: Pearls and Pitfalls

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KEYWORDS

- Patient-reported outcomes • Psychometric properties
- Generic and specific outcomes questionnaires

KEY POINTS

- If well-developed and validated tools are available for a condition, there is little need to develop new questionnaires except when they are simpler or provide enhanced information.
- Future efforts should focus on enabling the process of data collection and analysis through questionnaires simple enough to facilitate the regular use of these tools in clinical practice.
- In the current era of outcomes assessment and evidence-based medicine, it is essential for plastic surgeons to keep well-informed about the latest developments in understanding the assessment tools available to achieve enhanced patient satisfaction and quality of care.

OVERVIEW

Outcomes assessment is an integral component of evaluating the success of various medical and surgical procedures in the evidence-based era. Rather than relying on traditional “hard” outcomes data, such as how far one can walk after lower leg reconstruction or how much breast tissue is resected in breast reduction surgery, physicians and patients are much more interested in patients’ perception of their functional improvement, quality of life, and satisfaction with treatment. Such appraisal is vital not only for clinicians but also to patients. Patients are constantly trying to derive maximum information from their surgeon with regard to the outcomes of the procedures they undergo. These inquiries extend far beyond recovery and functional restoration. In plastic surgery, patients want to be reassured of other critical aspects of care, such as satisfaction,

physical and social well-being, and aesthetic appearances as a result of an intervention.

Traditionally, outcomes are measured in the form of assessments made by the treating plastic surgeon through photographs, anatomic measurements, and complications. However, the perception of results by a surgeon and patient differ. A plastic surgeon may be content with the results obtained from his or her treatment, but the patient may not be similarly pleased with the outcomes achieved. Therefore, outcomes measured from the patient’s viewpoint are highly relevant because most of the procedures performed in plastic surgery aim at improving physical appearance, body image, psychosocial function, and quality of life.¹ Acceptance by friends and family, emotional and mental satisfaction, confidence, and happiness with appearance after an intervention influence quality-of-life outcomes.² The volume of plastic surgery procedures is huge, and ever increasing.

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Procedural statistics from the American Society of Plastic Surgeons showed that 5.5 million reconstruction procedures and 1.6 million cosmetic surgical procedures were performed in the year 2011 with an increase of 5% and 2%, respectively, over the year 2010.³ Therefore, subsequent assessment of outcomes from the patient's perspective is relevant in plastic surgery.

Measures to quantify the results in plastic surgery are a recent trend and in the last two decades several outcomes questionnaires or surveys in the form of patient-reported outcomes (PRO) were developed and used. However, all of these outcomes tools are not validated. Encouragingly, the last decade has seen much progress in this area and attempts to develop more robust measurement tools continue. Plastic surgery is a unique field in which outcomes are not assessed alone by mortality and morbidity. Therefore, patient satisfaction and quality-of-life components take prime importance.² The future and success of this specialty depends heavily on the patients' perception of their outcomes. The ultimate goal is to have outcomes measures that incorporate patient satisfaction and all of the quality-of-life measures that can potentially reflect the real effect of a surgical intervention. This article educates readers about how to use these tools to measure patient satisfaction and outcomes achieved in a more meaningful and coherent manner. It also informs readers about the common pearls and pitfalls encountered during use of these questionnaires.

PATIENT REPORTED OUTCOMES MEASUREMENT INFORMATION SYSTEM AND ITS DEVELOPMENT

PRO helps to associate the outcomes achieved with the care provided from the patient's perspective. Rising costs of health care and restricted funding environments have led surgeons to find cost-effective measures to sustain health care delivery for the present and future. Outcomes assessments with the aid of patient questionnaires can partially achieve this task. The federal government has devoted substantial funding for the Patient Reported Outcomes Measurement Information System (PROMIS) initiative under National Institutes of Health guidance in 1994. The primary goal of this multicenter (12 sites) research project is to develop valid, reliable, and standardized tools to assess PRO.⁴ PROMIS uses item banks to generate instruments that can be used as primary or secondary end points in clinical studies that evaluate treatment effectiveness. These outcomes measures help assess various chronic conditions so outcomes can be comparable across studies.

TYPES OF AVAILABLE OUTCOMES QUESTIONNAIRES

PRO are obtained from patient interviews or questionnaires completed by patients during several follow-ups in the treatment process.⁵ Two types of questionnaires are available for use: generic questionnaires and disease-specific questionnaires. Each questionnaire has certain advantages and disadvantages associated with them because they were originally designed for different purposes. As a result, it is important to differentiate between them before proceeding with their use.

Generic questionnaires are designed to assess the disease effect on the whole person irrespective of the medical condition. They are broad and can be used for an overall health assessment after an intervention, as an accompaniment to disease-specific questionnaires, and when disease-specific questionnaires are not yet designed and available. For instance, Short Form 36 (SF-36) and Sickness Impact Profile can be used in a variety of conditions. SF-36 is a widely used generic measure along with specific measures to assess eight health domains.⁶ Generic measures incorporate various qualitative and quantitative aspects of human life.⁷ Each questionnaire is unique, so they provide researchers an opportunity to work with one or few questionnaires simultaneously and an ability to compare outcome results across different conditions.⁸ However, they lack the precision and sensitivity to detect specific changes after an intervention.

Disease-specific questionnaires are designed to assess interventions in patient populations identified by a particular disease. They are more responsive than general questionnaires because they are sensitive to detect changes due to focused questions. They are useful to evaluate specific interventions and differences between two similar treatments. For example, the Nasal Appearance and Function Evaluation Questionnaire can be used to assess functional and aesthetic outcomes after nasal reconstruction.⁹ Similarly, the Carpal Tunnel Questionnaire is a valid and reliable tool to assess symptom and functional changes after carpal tunnel surgery.¹⁰ The Michigan Hand Outcomes Questionnaire (MHQ) is another valid questionnaire with six health domains that is used all over the world to evaluate outcomes in patients with hand conditions.¹¹ It also collects the data on the unaffected hand to be used as a control for the comparison of outcomes.

A disease-specific instrument is designed to assess specific interventions. However, when a specific instrument addresses all aspects of intervention but fails to consider quality-of-life domains, such as psychosocial and sexual functioning,

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