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Review

How to decide which patient-reported outcome measure to use? A practical guide for plastic surgeons

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Received 13 October 2017; accepted 10 March 2018

KEYWORDS

Patient-reported outcome measures;
PROM;
Plastic surgery;
Reconstructive surgery;
Guide

Summary The use of patient-reported outcome measures (PROMs) is increasing across all medical specialties, as their importance to patient care is validated. They are likely to play a particularly important role in plastic and reconstructive surgery where outcomes are often subjective, and the recent guidance from the Royal College of Surgeons of England advising their use in cosmetic surgery highlights this. To drive their routine use across our specialty, it is important that clinicians are capable of understanding the often complex and confusing language that surrounds their design and validation. In this article, we describe the process of PROM design and validation, and we attempt to 'demystify' the language used in the health outcome literature. We present the important steps that a well-designed PROM must go through and suggest a straightforward guide for selecting the most appropriate PROMs for use in clinical practice. We hope that this will encourage greater use of PROM data across plastic and reconstructive surgery and ultimately help improve outcomes for our patients.

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Meetings: This work is yet to be presented.

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<https://doi.org/10.1016/j.bjps.2018.03.007>

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Introduction

Patient-reported outcome measures (PROMs) are standardised, validated questionnaires that are completed by patients and capture one or more aspects of their health and well-being.^{1,2} In a world where shared-decision making between clinicians' and patients' is encouraged,³ traditional measures of health outcomes have changed from traditional assessments conducted from the surgeon's perspective (e.g. do we as the operating surgeon think that the patient has had a 'good' outcome?) to encompass a more holistic and patient-centred view. Moreover, the definition of health has evolved to include outcomes such as happiness, quality of life and the ability to perform tasks of daily living. This change is so important that the World Health Organization (WHO) defines health as 'a state of physical, mental and social well-being and not just the absence of disease or infirmity'.⁴ PROMs are therefore designed to encompass and measure these aspects of health that can either not be directly observed or are not feasible to observe.⁵

Many PROMs were originally developed for assessing treatment effectiveness in the context of clinical trials.⁶ They are, however, becoming more commonly used in other situations such as routine monitoring of treatment effect and health-care service provision. NHS England has orchestrated a national PROMs programme since 2009, requiring routine collection of PROMs data for all patients who were undergoing hip and knee replacement surgery, inguinal hernia surgery and varicose vein surgery.^{2,6} More recently, the Royal College of Surgeons of England advocated the routine collection of PROMs for a number of cosmetic procedures, using three prominent questionnaires: BREAST-Q,⁷ FACE-Q⁸ and BODY-Q.⁹

There are a number of benefits of incorporating PROM data into research and routine clinical practice, especially in a specialty such as plastic and reconstructive surgery where objective outcomes can be difficult to quantify. It is important that we have patient-reported data to advocate certain treatments for patients, especially in the current climate where rationing of procedures is occurring. Many regulatory bodies also demand the inclusion of patient-reported data in

applications.¹⁰ The drive for value-based healthcare requires the wider adoption of PROMs to measure health outcomes across different providers and healthcare settings,^{11,12} and the King's Fund report suggests that PROMs are likely to become "a key part of how health care is funded, provided and managed".²

Types of PROMs

PROMs are typically classified as generic or disease-specific. Generic PROMs such as the EQ-5D, which is a measure of health status and SF-6D, which measures quality of life, are designed to be applied across different disease states.¹³ These generic PROMs allow comparisons of quality of life across a wide range of conditions. Disease-specific PROMs (also known as condition-specific), as the name indicates, are specific to certain diseases or body areas. Unlike generic PROMs, they are capable of discriminating with greater sensitivity between individuals with specific conditions. A wide range of disease-specific PROMs are available in the plastic and reconstructive surgery literature (Table 1). PROMs are delivered in a questionnaire format, which can be administered in various ways such as paper or computer based, or online platforms. Each question is usually scored on a Likert-type scale, with scores summed to give a total score for the underlying group of questions or 'construct'. In some instances, questions are given different weights based on their importance in contributing to the total score.¹⁴ Typically, the PROM is applied at more than one time point during the patient pathway, thereby allowing comparison of scores (either from the same person or pooled scores from multiple patients), pre- and post-intervention, or to evaluate changes in disease course.

Assessing the quality of a PROM

Given the ever-expanding range of PROMs, it is important that clinicians and researchers are capable of appraising and choosing the best PROMs for their needs. In choosing which

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